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CHAPTER 1 INTRODUCTION

This manual describes to configure the ATC-5050 mainboard for different environments. It's an overview of the layout and features of the mainboard, and also provides information for you to change the configuration or system environment.

This manual is divided into two parts :

PART ONE includes page A and two chapters as following:

Page A contains layout diagram of the mainboard.

Please refer to it when you configure the system.

Chapter 1 is an overview of the mainboard features and packing contents.

Chapter 2 describes how to upgrade and to change hardware configurations such as memory size, CPU type, and lists of jumper settings and connectors.

PART TWO includes chapter 3 which contains Award BIOS description..

Chapter 3 is the user's guide of the Award BIOS setup utility and Flash ROM BIOS. The menu shown in this chapter are the default settings.

Your system dealer will set up the mainboard according to your demand of the computer. It means that the current settings of your mainboard may not be the same as the defaults shown in this user's manual. If you need to change your configuration, please ask your dealer first. Be sure this will not void your system warranty, or ask your dealer to do it for you.

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1-1 SYSTEM FEATURES

- ☞ Intel Pentium (P54C) CPU operating at 90MHz to 200MHz
Intel Pentium MMX™ 166~233MHz, AMD K5, AMD K6,
Cyrix 6x86MX™, 6x86L.
- ☞ INTEL 82430TX PCIset.
- ☞ Using four 72-pin SIMM sockets, provides two banks of 64-bit wide path up to 256MB addressing page mode DRAMs.
- ☞ Using two 168-pin DIMM sockets for 3.3V SDRAM or EDO DRAM module.
- ☞ Supporting three types of DRAM including EDO (Extended Data Out), FPM (Fast Page Mode), 3.3V SDRAM.
- ☞ Built-in 512KB PB SRAM on board
- ☞ Supporting four PCI bus master revision 2.1, 5V interface compliant and three 16-bit ISA slots.
- ☞ Dual Master IDE connectors support Ultra DMA/33 (33MB/sec transfer rate), up to four devices in two channels for connection of high capacity hard disk drive, CD-ROM, tape backup etc..
- ☞ AT style keyboard connector and PS/2 mouse header.
- ☞ Winbond Ultra Multi-I/O chipset, integrated Keyboard controller.
Supporting Infrared transfer (IrDA TX/RX) connection.
One FDC port supports two devices up to 2.88MB & mode 3 Floppy.
Two 16550A fast UARTs compatible serial ports.
One EPP/ECP mode parallel port.
- ☞ Supporting Dual channel USB connection.
- ☞ Built-in Switching Voltage Regulator
- ☞ Built-in LM 78 / LM 75 Support Intel LANDesk Client Manager
LDCM (option)
- ☞ Supports ACPI Power Management - OSPM
(OS directed power management)
- ☞ Built-in P8, P9 Connector and ATX power connector support Soft-OFF Control.
- ☞ PCB Dimension is 220mm x 280mm (8.66" x 11.02") with four layers designed.

1-2 SOFT-OFF CONTROL

The mainboard design supports Soft-Off Control feature through the SMM code in the BIOS under Windows 95, Windows 3.1x, and MS-DOS operation system environment. It needs to use ATX power supply. (The mainboard is built-in two kind of for ATX or P8, P9 power supply connector, you should also set JP5 for different power.)

Firstly, you should connect power switch cable (provided by ATX case supplier) to the connector JP4 (j i PS_ON j next to Conn1) on the mainboard.

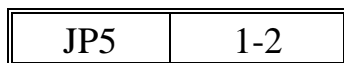
In Windows 95, if you would like to soft power off the system, you just choose "shutdown the computer ?" in "Shut Down Windows" from Windows 95, then push the Power Switch* (on ATX case), then system will be in soft off status directly. If you would like to restart the system, just press the button of the power switch, and the system will be power on.

* Default value (Power management of BIOS screen) is "Instant-off", you can change to 'Delay 4 Sec.', then you should push the Power Switch at least 4 seconds otherwise the system will be under SMI mode only.

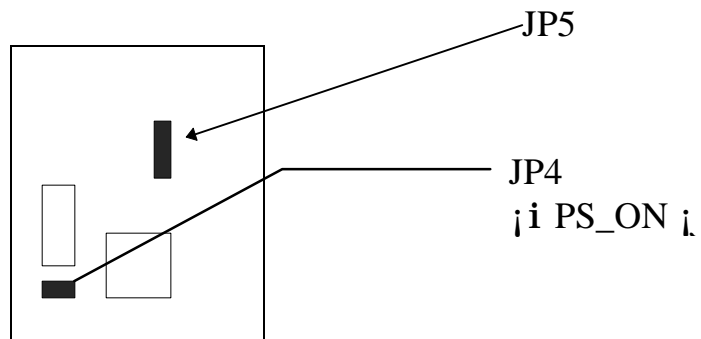
In Windows 3.1x or MS-DOS, you should copy the program of "down.com" (you can find it in the diskette of IDE driver) into hard drive. When you would like to power off the system, just run this "**down.com**", then the system will be shutdown and stay in standby status.

JP5 is used to select ATX or P8, P9 power connector

j ° ATX Power Supply



j ° P8, P9 Power Supply



Note : If you will leave your system several days, we suggest you use hardware mechanical power off to shutdown your system.

1-3 LDCM ;]LANDesk Client Manager;^(Option)

ATC-5050 built-in LM 78 / LM 75 support Intel LDCM. LDCM can satisfied users who want manageable systems that can interact automatically with the user. Client manager is the answer, enabling both administrators and clients to manage systems.

Client Manager enables you to:

i° **Review system inventory**

Client Manager enables you to view hundreds of inventoried items. Some of these items are software related, while many others are hardware related.

i° **View DMI-compliant component information**

Client manager enables you to view component information that is compliant with the Desktop Manager Interface ;]DMI;^. This means you can manage third-party DMI-compliant components not included with Client manager.

i° **Back up and restore system configuration files.**

Client Manager enables you back up and restore system configuration files. Whenever you plan on changing the system configuration , you can make a backup set. If the system no longer works correctly, after you the change the system configuration , you can simply restore the system configuration with the backup set.

i° **Troubleshoot**

Since Client manager enables you to view the system inventory, you can easily troubleshoot system problems.

i° **Receive notifications for system events**

Client manager enables you to receive notification of certain system events. For example, if the system is running low on virtual memory, you are notified of the potential problem.

i° **Transfer files to and from client workstations**

As an administrator, you have the ability to transfer files to and from client workstation. This is helpful, for example, when you need to update a client workstation driver.

i° **Remotely reboot client workstations**

Administrator also have the ability to remotely reboot a workstation . This is helpful when you want system configuration changes to take effect.

1-4 CHECK LIST OF THE PACKING

The mainboard comes securely packed in a durable box and shipping carton. If any of the above items are missing or damaged, please contact your supplier.

Each mainboard containing:

| <u>Q'TY</u> | <u>Description</u> | |
|-------------|--------------------|-------------------------------|
| 1 | Mainboard | : ATC-5050. |
| 1 | Diskette | : Enhanced IDE driver (3.5"). |
| 1 | Cable | : Enhanced IDE connector. |
| 1 | Cable | : F.D.D. connector. |
| 1 | Cable | : Serial port. |
| 1 | Cable | : Serial / Parallel. |
| 1 | Manual | : User`s manual. |

NOTE : Leave the mainboard in its original packing until you are ready to install it.

CHAPTER 2 INSTALLATION

2-1 INSTALLATION PROCEDURE

Before installing the computer, please prepare all components such as CPU, DRAM; peripherals such as hard disk devices, keyboard, CD-ROM drive; and accessories such as cables. Then, install the system as following :

1. Plug CPU, heat sink, cooling fan, and DRAM modules in the mainboard.
2. Set jumpers based on your configuration.
3. Plug add-on cards in PCI/ISA slots.
4. Connect cables to peripherals, power supply..
5. Make sure all components and devices are well connected, turn on the power and setup System BIOS based on your configuration.
6. Install peripheral, add-on card drivers and test them.
7. If all of above procedures are success, turn-off the power then plug all of them into your computer case.

2-2 CPU INSTALLATION

ATC-5050 supports one Pentium level CPU.

It can auto detect single or dual CPU voltage power supply type without jumper setting. For installation, please notice CPU pin 1 must align with the ZIF socket 7 pin 1 location. Before you install or upgrade your CPU, please read CPU guide from CPU manufacturer to make sure the CPU voltage specification. Then choose the right installation in section 2-2-1 based on your CPU type / brand and follow the description to setup jumpers. If your CPU is not in the list of 2-2-1, please refer to 2-2-2 and 2-2-3 for installation.

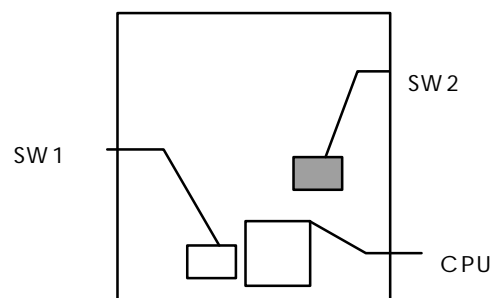
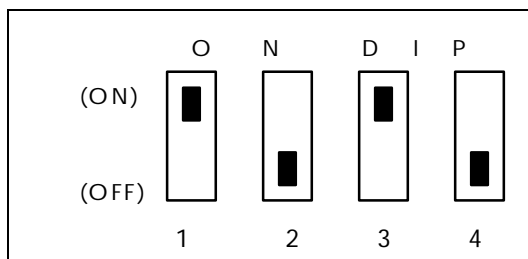
ATC-5050 uses Dip switch for the user to install CPU easily .SW1 for different CPU voltage value; SW2 1-3 for External clock and SW2 4-5 for Frequency.

How the DIP should be set DIP Switch ?

When you see the following information

| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
|-------|-------|-------|-------|
| ON | OFF | ON | OFF |

You should set your DIP Switch 1 & 3 in “(ON)” position, and DIP Switch 2 & 4 in “ (OFF)” position



2-2-1 CPU TYPE SELECTION

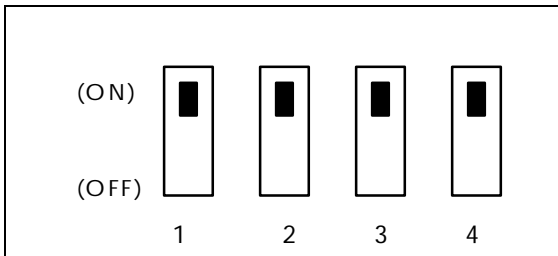
A. INTEL PENTIUM CPU (P54C)

¡° **P54C VRE : 3.400V~3.600V** (The fourth line of the mark on the under-side of the processor contains a code that identifies the voltage level type. V is VRE, S is standard.)

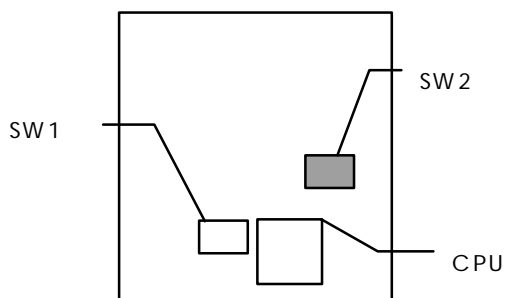
(3.5V)

| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
|-------|-------|-------|-------|
| ON | ON | ON | ON |

SW1



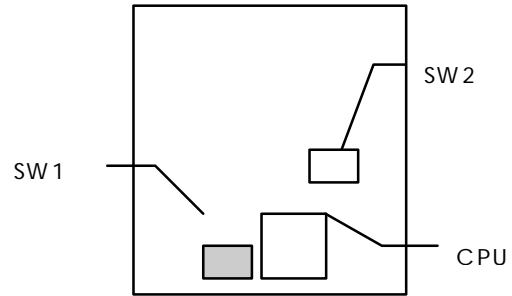
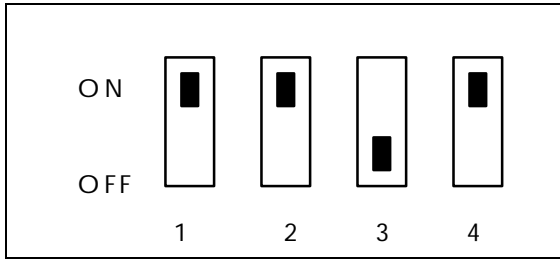
| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|--------------------|-------|-------|-------|-------|-------|------------|
| 120MHz | ON | ON | OFF | ON | OFF | 60x2.0 |
| 133MHz | ON | ON | ON | ON | OFF | 66x2.0 |
| 150MHz | ON | ON | OFF | ON | ON | 60x2.5 |
| 166MHz | ON | ON | ON | ON | ON | 66x2.5 |
| 180MHz | ON | ON | OFF | OFF | ON | 60x3.0 |
| 200MHz | ON | ON | ON | OFF | ON | 66x3.0 |



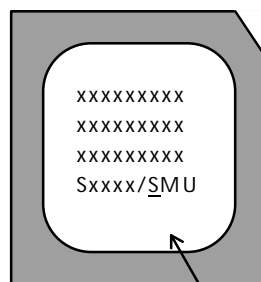
¡° P54C STD : 3.135V ~ 3.600V (The fourth line of the mark on the under-side of the processor contains a code that identifies the voltage level type. V is VRE, S is standard.)

| | | | |
|--------------|--------------|--------------|--------------|
| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
| ON | ON | OFF | ON |

SW1 (3.3V)



| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|---------------------------|--------------|--------------|--------------|--------------|--------------|-------------------|
| 120MHz | ON | ON | OFF | ON | OFF | 60x2.0 |
| 133MHz | ON | ON | ON | ON | OFF | 66x2.0 |
| 150MHz | ON | ON | OFF | ON | ON | 60x2.5 |
| 166MHz | ON | ON | ON | ON | ON | 66x2.5 |
| 180MHz | ON | ON | OFF | OFF | ON | 60x3.0 |
| 200MHz | ON | ON | ON | OFF | ON | 66x3.0 |

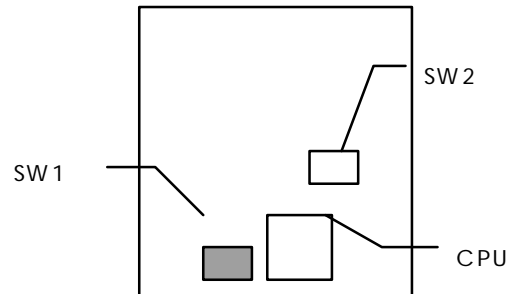
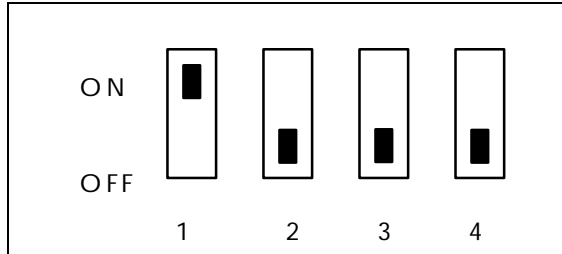


Intel Pentium CPU, the first letter after '/' denotes voltage type.

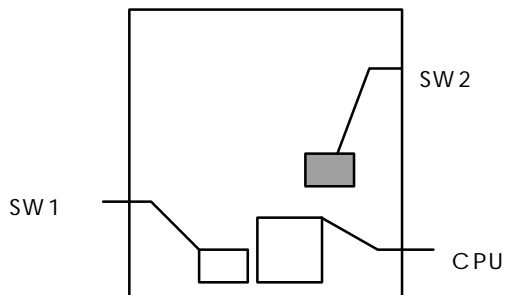
B. INTEL PENTIUM MMX™ CPU (P55C)

| | | | |
|--------------|--------------|--------------|--------------|
| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
| ON | OFF | OFF | OFF |

SW1 (2.8V)



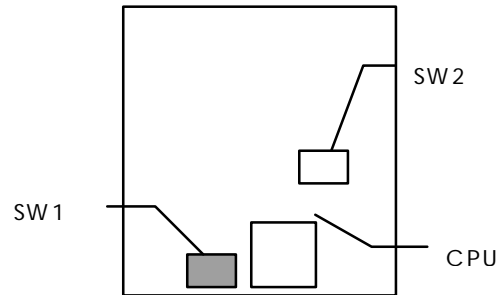
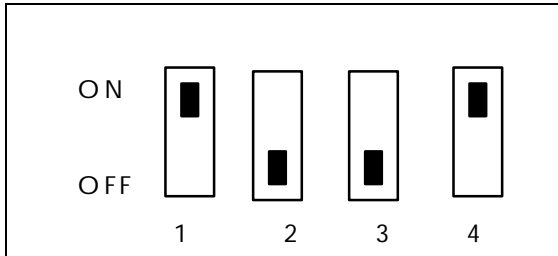
| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|--------------------|-------|-------|-------|-------|-------|------------|
| 166MHz | ON | ON | ON | ON | ON | 66x2.5 |
| 200MHz | ON | ON | ON | OFF | ON | 66x3.0 |
| 233MHz | ON | ON | ON | OFF | OFF | 66x3.5 |



C. Cyrix 6x86 MX CPU

| | | | |
|--------------|--------------|--------------|--------------|
| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
| ON | OFF | OFF | ON |

SW1 (2.9V)

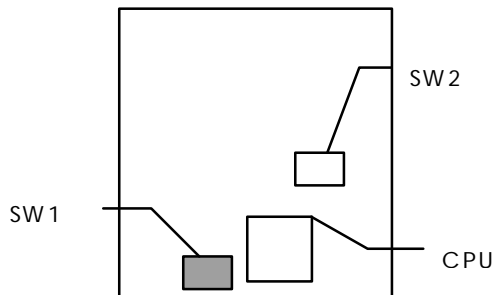
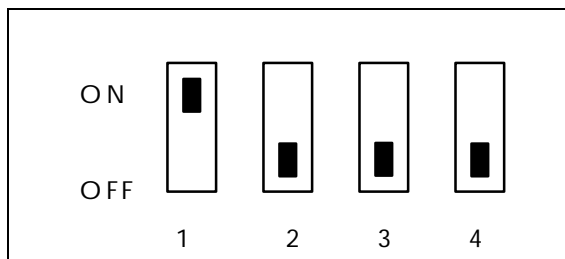


| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|---------------------------|-------|-------|-------|-------|-------|------------|
| PR150 @ 60 Bus 2x | ON | ON | OFF | ON | OFF | 60x2.0 |
| PR166 @ 66 Bus 2x | ON | ON | ON | ON | OFF | 66x2.0 |
| PR166 @ 60 Bus 2.5x | ON | ON | OFF | ON | ON | 60x2.5 |
| PR200 @ 66 Bus 2.5x | ON | ON | ON | ON | ON | 66x2.5 |
| PR200 @ 75 Bus 2x | ON | OFF | ON | ON | OFF | 75x2.0 |

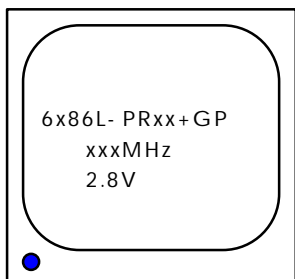
D. Cyrix 6x86L CPU (dual voltage)

| | | | |
|--------------|--------------|--------------|--------------|
| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
| ON | OFF | OFF | OFF |

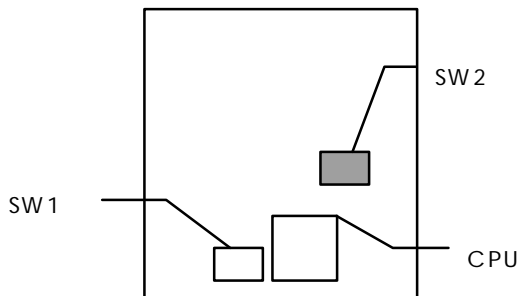
SW1 (2.8V)



| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|---------------------------|-------|-------|-------|-------|-------|------------|
| PR150+ | ON | ON | OFF | ON | OFF | 60x2.0 |
| PR166+ | ON | ON | ON | ON | OFF | 66x2.0 |
| PR200+ | ON | OFF | ON | ON | OFF | 75x2.0 |



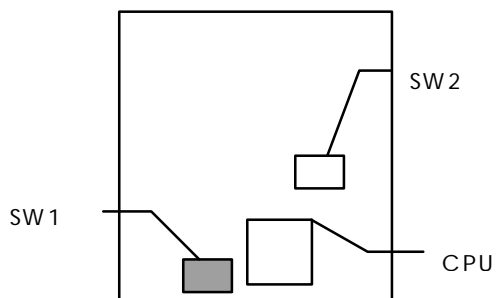
The mark on the processor is shown as a sample on the left. The code-name 6x86L is dual voltage mode processor.



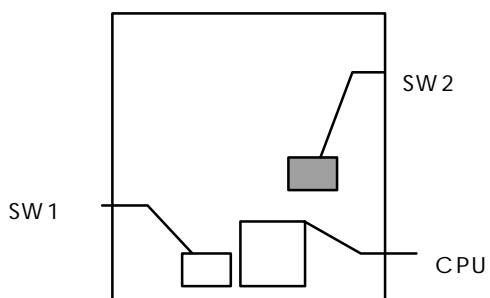
E. AMD-K5 CPU

| | | | |
|--------------|--------------|--------------|--------------|
| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
| ON | ON | ON | ON |

SW1 (3.5V)



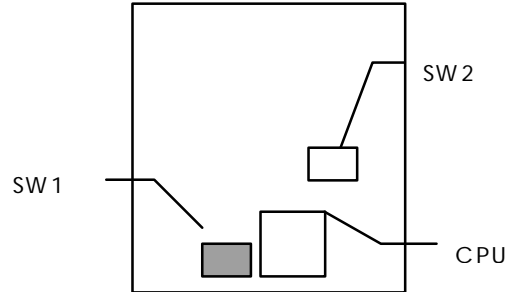
| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|---------------------------|-------|-------|-------|-------|-------|------------|
| PR90 | ON | ON | OFF | OFF | OFF | 60x1.5 |
| PR100 | ON | ON | ON | OFF | OFF | 66x1.5 |
| PR120 | ON | ON | OFF | OFF | OFF | 60x1.5 |
| PR133 | ON | ON | ON | OFF | OFF | 66x1.5 |
| PR166 | ON | ON | ON | ON | ON | 66x2.5 |



F. AMD-K6-166 ALR / K6-200 ALR CPU

| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
|-------|-------|-------|-------|
| ON | OFF | OFF | ON |

SW1 (2.9V)

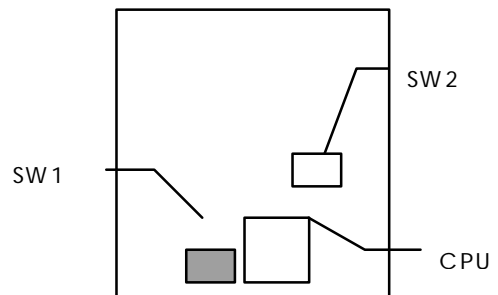
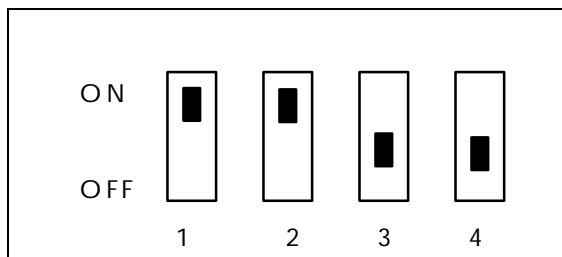


| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|--------------------|-------|-------|-------|-------|-------|------------|
| K6-166 ALR | ON | ON | ON | ON | ON | 66x2.5 |
| K6-200 ALR | ON | ON | ON | OFF | ON | 66x3.0 |

AMD-K6-233 ANR CPU

| SW1-1 | SW1-2 | SW1-3 | SW1-4 |
|-------|-------|-------|-------|
| ON | ON | OFF | OFF |

SW1 (3.2V)



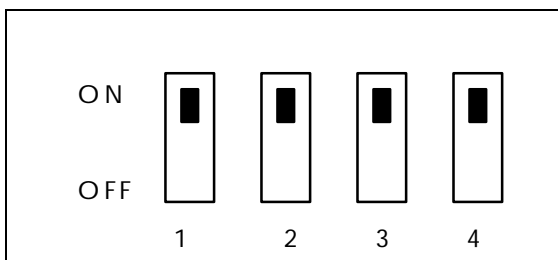
| INTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 | SW2-4 | SW2-5 | Ext.x Frq. |
|--------------------|-------|-------|-------|-------|-------|------------|
| K6-233 ANR | ON | ON | ON | OFF | OFF | 66x3.5 |

2-2-2 CPU VOLTAGE SETTING

ATC-5050 can auto detect single or dual CPU voltage supply type without jumper setting. SW1 is used for various CPU voltage value types, please refer to CPU's marking on/under CPU.

°CPU Core Voltage Type : SW1

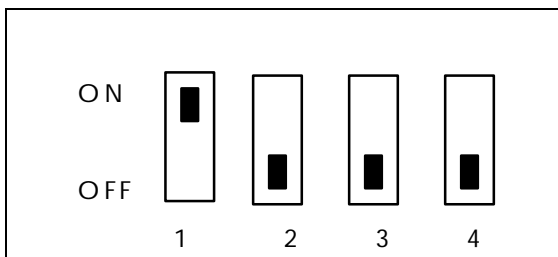
INTEL VRE(P54C) 3.5 V



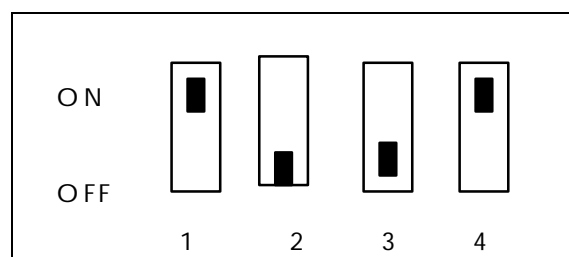
INTEL STD(P54C) 3.3 V



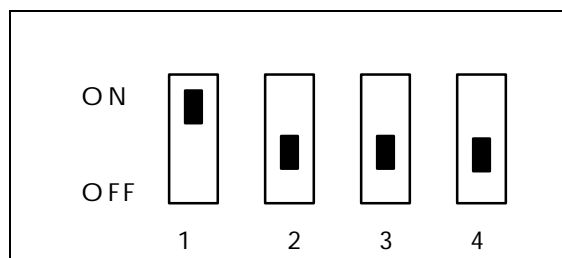
INTEL MMX(P55C) 2.8 V



Cyrix MX 2.9 V



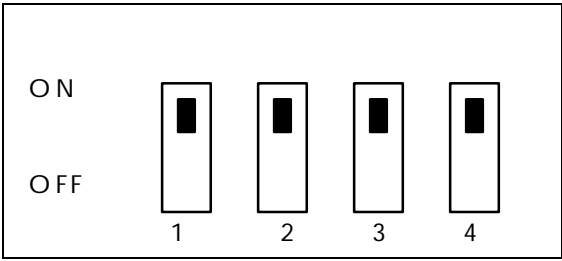
CYRIX 6x86L 2.8 V



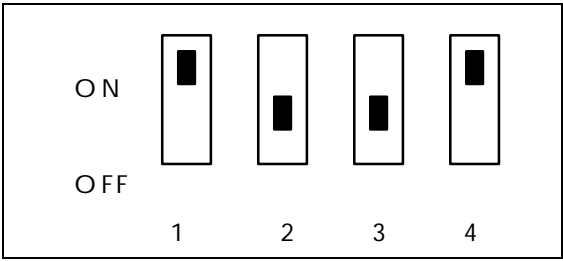
CYRIX 6x86 3.5V



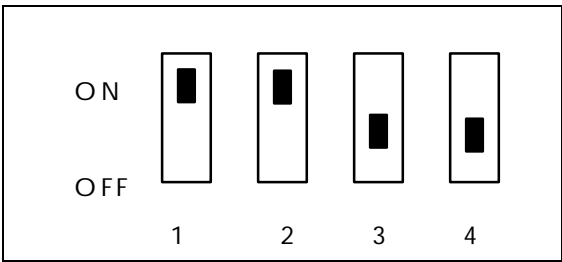
AMD-K5 3.5 V



AMD-K6/166,200 ALR 2.9 V



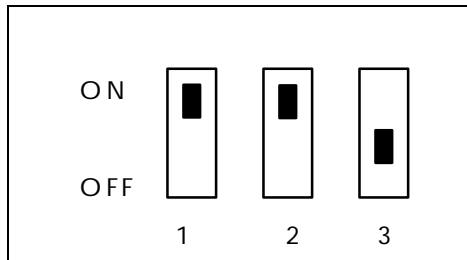
AMD-K6/233 ANR 3.2V



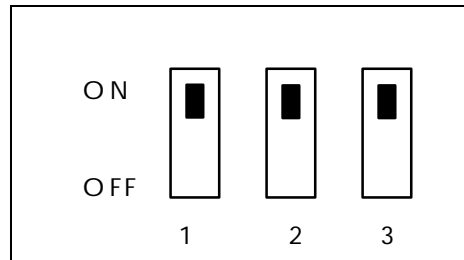
2-2-3 CPU CLOCK SETTING

| EXTERNAL CPU CLOCK | SW2-1 | SW2-2 | SW2-3 |
|--------------------|-------|-------|-------|
| 60(MHz) | ON | ON | OFF |
| 66(MHz) | ON | ON | ON |
| 75(MHz) | ON | OFF | ON |

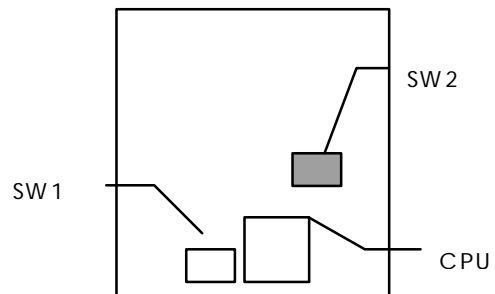
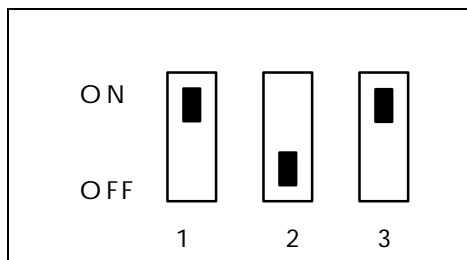
60MHz



66MHz

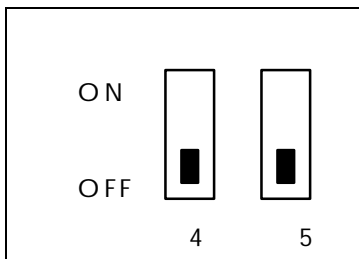


75MHz

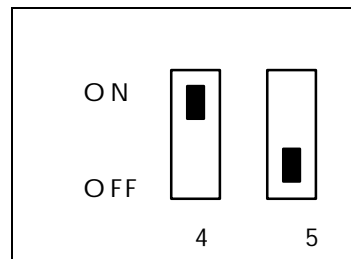


| INTERNAL CPU CLOCK | SW2-4 | SW2-5 |
|----------------------------|-------|-------|
| INTEL EXTERNAL CLOCK X 1.5 | OFF | OFF |
| INTEL EXTERNAL CLOCK X 2.0 | ON | OFF |
| INTEL EXTERNAL CLOCK X 2.5 | ON | ON |
| INTEL EXTERNAL CLOCK X 3.0 | OFF | ON |
| INTEL EXTERNAL CLOCK X 3.5 | OFF | OFF |

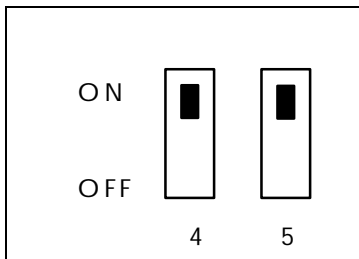
x 1.5



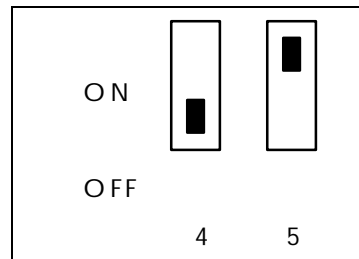
x 2.0



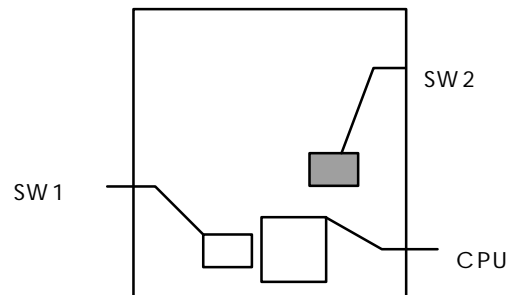
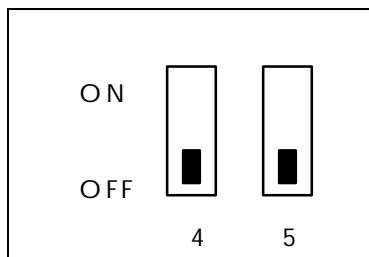
x 2.5



x 3.0



x 3.5



2-3 SYSTEM MEMORY INSTALLATION

ATC-5050 provides four 72-pin SIMM sockets for system memory expansion from 8MB to 256MB. These four SIMMs are arranged to two banks, Bank0 (SIM 1, 2) and Bank1(SIM 3, 4), please refer to page A. Each bank provides 64-bit wide data path.

The mainboard accepts Fast Page Mode DRAM, and EDO Mode (Extended Data Out) DRAM, with a speed no slower than 70 nanosecond. You should plug DRAM modules into two sockets (same bank) or four sockets at one time. Each pair of modules in the same bank must be the same size, type, and speed; no matter single-side or double-side module. Please plug in Bank 0 firstly if you only have 2 modules. The mainboard supports mixing of EDO and fast page mode DRAM among different banks, please plug EDO in Bank 0.

Also this mainboard provides two 168-pin DIMM sockets for 3.3V SDRAM or 3.3V EDO DRAM expansion. You should plug SDRAM/DRAM module into each DIMM sockets (as a bank) or two sockets at one time.

CAUTION: It's not recommended to install the 3.3V SDRAM and 5V EDO or Fast Paged mode memory within a system. The 72-pin DRAM cannot work with 168-pin DRAM in the same time. Changing EDO/FPM DRAM to SDRAM, you don't have to adjust jumper setting or BIOS value, nor change SDRAM to EDO/FPM DRAM. (i° Please make sure the SDRAM plugged-in fully, to prevent contact loss.)

i° System Memory Combinations Options i°

| BANK0 SIM 1, 2 | BANK1 SIM 3, 4 | Total Memory SIM 1- 4 |
|---------------------------|---------------------------|----------------------------------|
| 4MBx2 | - | 8MB |
| - | 4MBx2 | 8MB |
| 8MBx2 | - | 16MB |
| - | 8MBx2 | 16MB |
| 4MBx2 | 4MBx2 | 16MB |
| 4MBx2 | 8MBx2 | 24MB |
| 8MBx2 | 4MBx2 | 24MB |
| 16MBx2 | - | 32MB |
| - | 16MBx2 | 32MB |
| 8MBx2 | 8MBx2 | 32MB |
| 4MBx2 | 16MBx2 | 40MB |
| 16MBx2 | 4MBx2 | 40MB |
| 8MBx2 | 16MBx2 | 48MB |
| 16MBx2 | 8MBx2 | 48MB |
| 32MBx2 | - | 64MB |
| - | 32MBx2 | 64MB |
| 16MBx2 | 16MBx2 | 64MB |
| 4MBx2 | 32MBx2 | 72MB |
| 32MBx2 | 4MBx2 | 72MB |
| 8MBx2 | 32MBx2 | 80MB |
| 32MBx2 | 8MBx2 | 80MB |
| 16MBx2 | 32MBx2 | 96MB |
| 32MBx2 | 16MBx2 | 96MB |
| 32MBx2 | 32MBx2 | 128MB |
| 64MBx2 | - | 128MB |

- continue -

| | | |
|----------|----------|-------|
| - | 64MBx2 | 128MB |
| 4MBx2 | 64MBx2 | 136MB |
| 64MBx2 | 4MBx2 | 136MB |
| 8MBx2 | 64MBx2 | 144MB |
| 64MBx2 | 8MBx2 | 144MB |
| 16MBx2 | 64MBx2 | 160MB |
| 64MBx2 | 16MBx2 | 160MB |
| 32MBx2 | 64MBx2 | 192MB |
| 64MBx2 | 32MBx2 | 192MB |
| 64MBx2 | 64MBx2 | 256MB |
| *128MBx2 | - | 256MB |
| - | *128MBx2 | 256MB |

* Please confirm this with your supplier firstly.

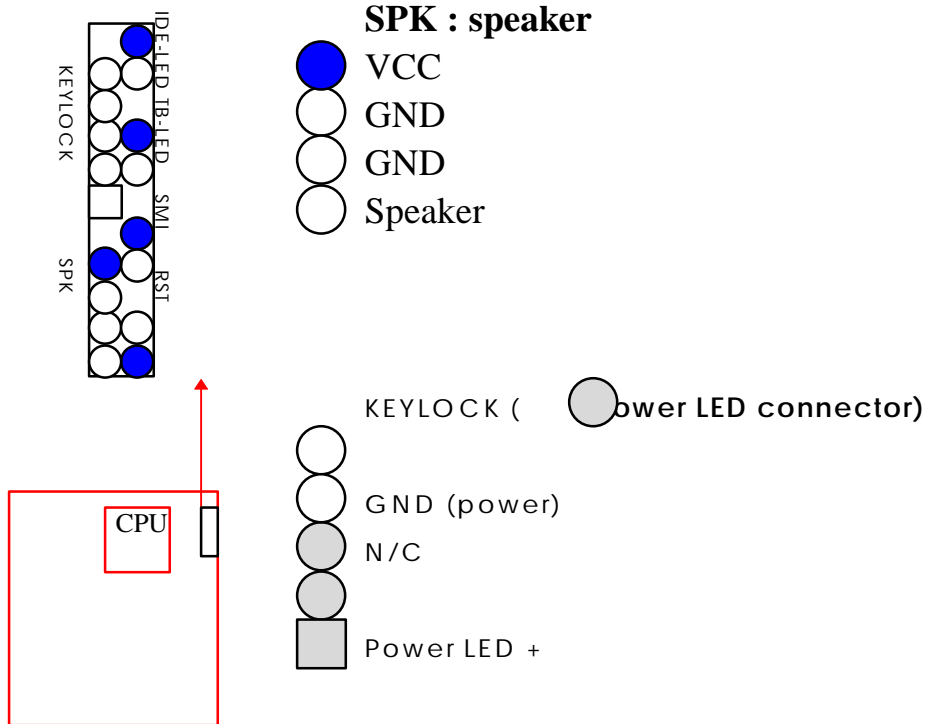
2-4 SRAM INSTALLATION

ATC-5050 is built-in 512KB Sync. Pipeline Burst SRAM on board

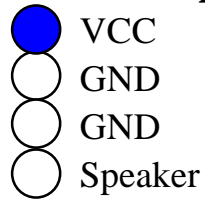
2-5 OTHER JUMPERS AND CONNECTORS DESCRIPTION

When you plug a cable into the following I/O connectors, you should have the pin 1 edge of the cable aligned with the pin 1 end of the connector.

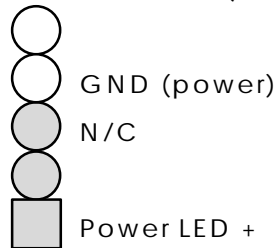
CONN1 : speaker, power LED, reset, SMI, turbo LED, and IDE LED connectors.



SPK : speaker



KEYLOCK (Power LED connector)



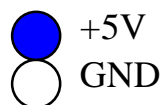
RST : Reset connector



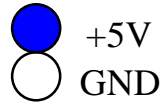
SMI : SMI lead



TB-LED : Turbo LED indicator

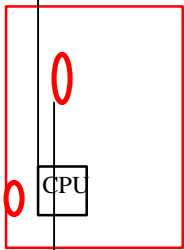
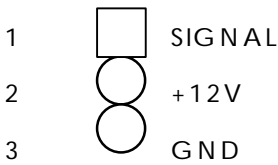


IDE-LED : IDE devices indicator LED



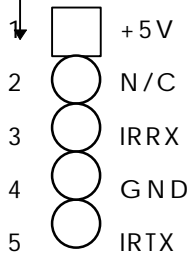
connector. IDE-LED stays ON indicates on-board IDE devices in operation. If plug wire into wrong connector, color of LED will be lighter and the IDE devices can still function properly.

FAN1 : CPU cooling fan connector. Wire with +12V voltage (most likely red wire) must be plugged into pin2, and GROUND wires (most likely black wires) must be plugged into pin1 and/or pin3. please confirm the wire color representation with your supplier.



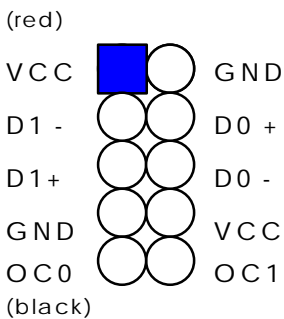
CAUTION: Plug wire into wrong connector will DAMAGE fan and mainboard.

IR1 : Infrared module connector.

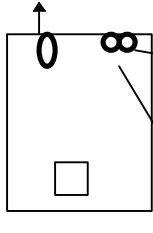


USB1 : USB connector; Universal Serial Bus;this is used to connect USB devices through an optional dual head cable with a iron plane. OC0 and OC1 are used to mention the status of the USB power supply lines.

CAUTION: Plug wire into wrong connector will DAMAGE USB devices and mainboard.

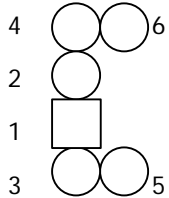


USB



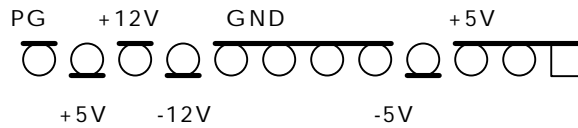
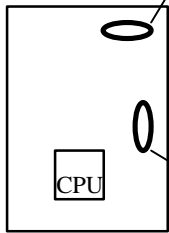
KB1 : 5-pin AT style keyboard connector.

PS/2 Mouse: connector, which is used to connect an optional cable.

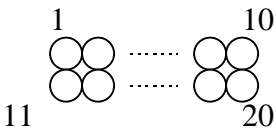


- pin1 : data
- pin2 : N/C
- pin3 : GND
- pin4 : VCC
- pin5 : clock
- pin6 : N/C

PW1 : +5 Voltage power supply connector.(P8,P9)



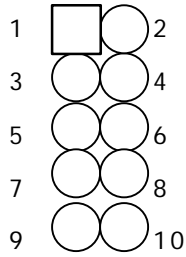
PW2 : ATX mode +3.3/5/12V power supply connector.



| | | | | | | | |
|---|------|----|-------|-----|-------|----|-----|
| 1 | 3.3V | 6 | +5V | 11 | 3.3V | 16 | GND |
| 2 | 3.3V | 7 | GND | 12 | -12V | 17 | GND |
| 3 | GND | 8 | PWRGD | 13 | GND | 18 | -5V |
| 4 | +5V | 9 | 5VSB | 14* | PS_ON | 19 | +5V |
| 5 | GND | 10 | +12V | 15 | GND | 20 | +5V |

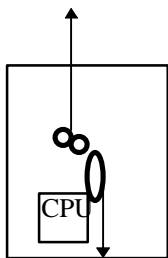
* PS_ON : Soft-Off power control

COM1/COM2 : these two connectors are used to connect serial port cables.



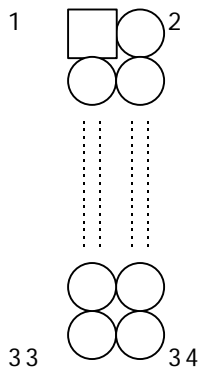
| pin | signal name |
|-----|-------------|
| 1 | DCD |
| 2 | Serial In |
| 3 | Serial Out |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | RI |
| 10 | N/C |

COM1/COM2



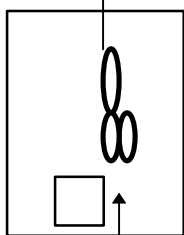
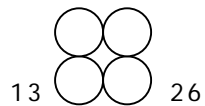
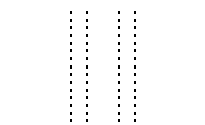
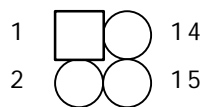
FDC

FDC : this connector is used to connect floppy disk drive through cable.



| pin | signal | pin | signal |
|------------------------------------------|----------------|-----|----------------|
| 2 | RWC- | 20 | STEP- |
| 4 | reserved | 22 | Write Data |
| 6 | FDEDIN | 24 | Write Gate |
| 8 | Index- | 26 | Track 00- |
| 10 | Motor EnableA- | 28 | Write Protect- |
| 12 | Drive Sele.B- | 30 | Read Data- |
| 14 | Drive Sele.A- | 32 | Side 1 Sele.- |
| 16 | Motor EnableB- | 34 | DisketteChange |
| 18 | DIR- | | |
| All of odd pins are ground(except pin 5) | | | |

LPT : this connector is used to connect parallel port cable.

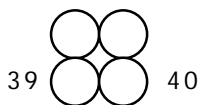
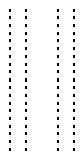
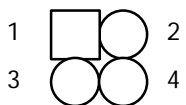


| pin | signal | pin | signal |
|---------------------------|------------|-----|------------|
| 1 | STROBE- | 10 | ACK- |
| 2 | Data Bit 0 | 11 | BUSY |
| 3 | Data Bit 1 | 12 | PE |
| 4 | Data Bit 2 | 13 | SLCT |
| 5 | Data Bit 3 | 14 | Auto Feed- |
| 6 | Data Bit 4 | 15 | ERROR- |
| 7 | Data Bit 5 | 16 | INIT- |
| 8 | Data Bit 6 | 17 | SLCT IN- |
| 9 | Data Bit 7 | 26 | N/C |
| pin18 -- pin25 are ground | | | |

IDE1/IDE2 : these two connectors are used to connect max. 4 devices through IDE cable.

*

IDE1: pin31 is IRQ14;
IDE2: pin31 is IRQ15
or MIRQ0



| pin | signal | pin | signal |
|-----|--------------|-----|---------------|
| 1 | Reset IDE | 21 | DDRQ0(1) |
| 2 | GND | 22 | GND |
| 3 | Host Data 7 | 23 | I/O Write- |
| 4 | Host Data 8 | 24 | GND |
| 5 | Host Data 6 | 25 | I/O Read- |
| 6 | Host Data 9 | 26 | GND |
| 7 | Host Data 5 | 27 | IORDY |
| 8 | Host Data 10 | 28 | N/C |
| 9 | Host Data 4 | 29 | DDAK0-(1-) |
| 10 | Host Data 11 | 30 | GND |
| 11 | Host Data 3 | 31 | IRQ14* |
| 12 | Host Data 12 | 32 | IOCS16- |
| 13 | Host Data 2 | 33 | Addr 1 |
| 14 | Host Data 13 | 34 | N/C |
| 15 | Host Data 1 | 35 | Addr 0 |
| 16 | Host Data 14 | 36 | Addr 2 |
| 17 | Host Data 0 | 37 | ChipSele. 1P- |
| 18 | Host Data 15 | 38 | ChipSele 3P- |
| 19 | GND | 39 | Activity |
| 20 | Key | 40 | GND |

2-6 IDE DRIVER INSTALLATION

Setup for Windows 95 : (Windows 95 version 950/950a/950b)

1. Starting Windows 95
2. Select "START", "RUN".
3. Install INF.EXE before you install IDE driver, please refer to readme file.
4. Type "A:\WIN95\SETUP.EXE".
5. Restart computer, then follow the instructions on your screen to install new IDE driver we offer in the 3.5" diskette
6. Exit Windows 95, turn power off; then turn power on.
After installation, if the screen shows a yellow jI, please ignore it.
(The other platforms please refer to readme file.)

Make sure your HDD should follow ATA standard, and your CD-ROM should follow ATAPI standard. When you plug-in the IDE devices, please plug your first and second devices into IDE 1 port (Master then Slave), then plug third and forth devices into IDE 2 port. If you have CD-ROM drive, please set it behind hard disk devices as the last device. For example, if you have 2 HDDs and 1 CD-ROM, you should set HDD1 and HDD2 in IDE1 Master and Slave, set CD-ROM in IDE 2 Master. Some of the brands devices combination may not work under this sequence, you can try to re-arrange the devices sequence, or contact your vendor.

| Primary Master | Primary Slave | Secondary Master | Secondary Slave | |
|----------------|---------------|------------------|-----------------|----------------------------------|
| ATA | | | | no ATAPI |
| ATA | | ATAPI | | disk & CD-ROM |
| ATA | ATAPI | | | use only one cable |
| ATA | | ATAPI | ATAPI | CD-ROM and a tape or two CD-ROMs |

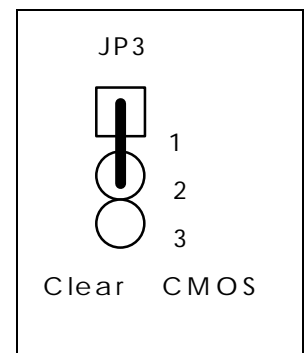
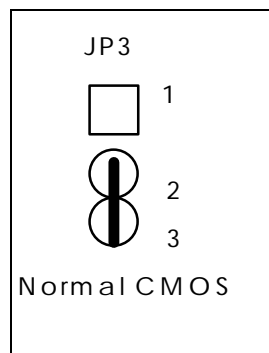
CHAPTER 3 AWARD BIOS SETUP

This chapter explains the system BIOS setup, and how to update new BIOS. All BIOS screens shown in the following pages are default values, your system dealer will set up these values according to your demand of computer.

ATC-5050 uses Flash ROM to make BIOS easier to be updated by the floppy disk-based program and to committee Microsoft Windows 95 plug & play feature. Please refer to the next page for the update procedure. After the BIOS is updated, you should clear the setup data stored in the CMOS.

The update CMOS process is mechanical power off (or unplug the power cord) to ensure there is no power to the mainboard, first. Set JP3 to 1,2 position to clear CMOS, then set JP3 to 2,3 position, and power on the power switch (or plug the power cord).

| | JP3 |
|--------|-----|
| Normal | 2-3 |
| Clear | 1-2 |



3-1 UPDATE BIOS PROCEDURES

If the BIOS needs to be updated, you can get a diskette with the updated BIOS from your system supplier. The BIOS diskette includes 3 files:

“awdfash.exe” -- BIOS update utility program
“awdfash.doc”
“(updated BIOS filename with version number).bin”

The update procedures are as following:

1. Boot the system to DOS mode in a normal manner.
2. Insert the updated diskette to drive A (or B).
3. Change working directory to floppy drive, A or B, which contains the updated BIOS diskette. -- Type “a:\” or “b:\”, “ENTER”.
4. Run the BIOS update utility -- Type “awdfash”, “ENTER”.
5. Type “(update BIOS file name with version number).bin”, ENTER.
6. Type “N” when the screen displays the message :
" Do you want to save BIOS (Y/N) ?".
7. Type “Y” when the screen shows the message :
" Are you sure to program (Y/N) ?".
8. Follow instructions displayed on the screen.
DO NOT remove the update BIOS diskette from the floppy drive nor turn the system power off until the BIOS update is completed.
9. Turn the power off , clear the data in CMOS according to the procedure described in the previous page.
10. Turn the system power on and test your system working properly or not.

3-2 AWARD SYSTEM BIOS CONFIGURATION SETUP

The following pages explain how to set up the system configuration (CMOS) under the AWARD BIOS. The SETUP program is stored in the Read-Only-Memory (ROM) on the mainboard. Enter the SETUP procedure, press the key when the system is booting up. The following main menu will appear. Please select "STANDARD CMOS SETUP" to enter the next screen.

ROM PCI/ISA BIOS (2A59IA2D)
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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Time, Date, Hard Disk Type | |

The section on the bottom of the main menu explains how to control this screen.

The other one section displays the items highlighted in the list.

This screen records some basic hardware information, and set the system clock and error handling. These records can be lost or corrupted if the on-board battery is failed or weak.

ROM PCI/ISA BIOS (2A59IA2D)
 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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Time, Date, Hard Disk Type | |

ROM PCI/ISA BIOS (2A59IA2D)
 STANDARD CMOS SETUP
 AWARD SOFTWARE, INC.

| Date (mm:dd:yy) : Fri, Feb 14 1997 | | | | | | | | |
|------------------------------------|--------|------|---------------------------|-----------------|---------|--------------------|--------|------|
| Time(hh:mm:ss) : 13 : 7 : 14 | | | | | | | | |
| HARD DISKS | TYPE | SIZE | CYLS | HEAD | PRECOMP | LANDZ | SECTOR | MODE |
| Primary Master | : Auto | 0 | 0 | 0 | 0 | 0 | 0 | Auto |
| Primary Slave | : Auto | 0 | 0 | 0 | 0 | 0 | 0 | Auto |
| Secondary Master | : Auto | 0 | 0 | 0 | 0 | 0 | 0 | Auto |
| Secondary Slave | : Auto | 0 | 0 | 0 | 0 | 0 | 0 | Auto |
| Drive A : 1.44M, 3.5 in. | | | | Base Memory | | : | 640K | |
| Drive B : None | | | | Extended memory | | : | 64512K | |
| Floppy 3 Mode support : Disabled | | | | Other Memory | | : | 384K | |
| Video : EGA/VGA | | | | ----- | | | | |
| Halt On: All Errors | | | | Total Memory | | : | 65536K | |
| ESC | : | Quit | ↑↓→←:Select Item | | | PU/PD/+/- : Modify | | |
| F1 | : | Help | (Shift) F2 : Change Color | | | | | |

Date

mm is month, dd is date, yy is year.

| | |
|-------|-------------------|
| date | from 1 to 31 |
| month | from Jan. to Dec. |
| year | from 1900 to 2099 |

Time

hh is hour, mm is minute, ss is second.

| | |
|----|---------------------------------------|
| hh | from 0 to 23 (24-hour military -time) |
| mm | from 1 to 59 |
| ss | from 1 to 59 |

Primary Master

Primary Slave

Secondary Master

Secondary Slave

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 45 are predefined. Type 'user' is user- definable. Press PgUp/PgDn to select a numbered hard disk type or type the number and press <Enter>. If you select 'Auto' BIOS will auto-detect the HDD & CD-ROM Drive at the POST stage and showing the IDE for HDD & CD-ROM Drive. If you select 'user', you will need to know the information listed below. Enter the information directly from the keyboard and press <Enter>. These information should be from your hard disk vender or dealer. If the controller of HDD interface is ESDI, the selection shall be 'Type 1'; it SCSI, the selection shall be 'None'. If the device has not been installed select 'NONE' and press <Enter>.

| | |
|---------|----------------------|
| Type | drive type |
| SIZE | automatically adjust |
| CYLS | number of cylinders |
| HEAD | number of heads |
| PRECOMP | write precom |
| LANDZ | landing zone |
| SECTOR | number of sectors |
| MODE | mode type |

Drive A
Drive B

The category identifies the types of floppy disk drive A or drive B that have been installed in the computer.

| | |
|---------------|----------------------------------|
| None | No floppy drive installed |
| 360K, 5.25 in | 5.25" PC-type 360KB capacity |
| 1.2M, 5.25 in | 5.25" AT-type 1.2MB capacity |
| 720K, 3.5 in | 3.5" double-side 720KB capacity |
| 1.44M, 3.5 in | 3.5" double-side 1.44MB capacity |
| 2.88M, 3.5 in | 3.5" double-side 2.88MB capacity |

Floppy 3 mode support

This is the Japanese standard floppy drive. The standard stores 1.2MB in a 3.5" diskette

Video

The category selects the type of video adapter used for the primary system monitor. Although secondary monitor is supported, you do not have to select the type in Setup.

Halt On

The category determines whether the computer will stop if an error is detected during power up.

| | |
|-------------------|-----------------------------------------------------------------------------------------------|
| No errors | The system boot will not be stopped for any error that may be detected |
| ALL errors | When the BIOS detects a non-fatal error, the system will be stopped and you will be prompted |
| All, But Keyboard | The system boot will not stop for a keyboard error, it will stop for all other errors |
| All, But Diskette | The system boot will not stop for a disk error, it will stop for all other errors |
| All, But Disk/Key | The system boot will not stop for a disk or keyboard error, it will stop for all other errors |

Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory

The value of the base memory is typically 512K or 640K based on the memory installed on the mainboard.

Extended Memory

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

Other Memory

This refers to the memory located in the 640K to 1024K address space.
The BIOS is the most frequent user of this RAM area since this is where it shadows RAM.

This screen is a list of system configuration options. Some of them are defaults required by the mainboard's design, others depend on the features of your system.

ROM PCI/ISA BIOS (2A59IA2D)

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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Virus, Protection, Boot Sequence | |

ROM PCI/ISA BIOS (2A59IA2D)

BIOS FEATURES SETUP

AWARD SOFTWARE, INC.

| | |
|--------------------------------------|--------------------------------------|
| Virus Warning : Disabled | Video BIOS Shadow : Enabled |
| CPU Internal Cache : Enabled | C8000-CBFFF Shadow : Disabled |
| External Cache : Enabled | CC000-CFFFF Shadow : Disabled |
| Quick Power On Self Test : Enabled | D0000-D3FFF Shadow : Disabled |
| Boot Sequence : A, C, SCSI, LS120 | D4000-D7FFF Shadow : Disabled |
| Swap Floppy Drive : Disabled | D8000-DBFFF Shadow : Disabled |
| Boot Up Floppy Seek : Enabled | DC000-DFFFF Shadow : Disabled |
| Boot Up NumLock Status : On | |
| Boot Up System Speed : High | |
| Typematic Rate Setting : Disabled | |
| Typematic Rate(Chars/Sec) : 6 | |
| Typematic Delay(Msec) : 250 | Esc : Quit ↑↓→←:Select Item |
| Security Option : Setup | F1 : Help PU/PD/+/- : Modify |
| PCI/VGA Palette Snoop : Disabled | F5 : Old Values (SHIFT)F2 : Color |
| Assign IRQ for VGA : Enabled | F6 : Load BIOS Defaults |
| OS select for DRAM>64MB : Non-OS2 | F7 : Load Setup Defaults |
| Report No FDD for WIN 95 : NO | |

Virus Warning

When this item is enabled, the BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will prompt the following error messages will appear and wait for user input. Many disk diagnostic programs which attempt to access the boot sector table can cause the following warning message. If you will be running such a program, we recommend that you disable Virus Protection beforehand.

! WARNING !

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

| | |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enabled | Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table. |
| Disabled | No warning messages will appear when anything attempts to access the boot sector or hard disk partition table. |

CPU

Internal Cache

External Cache

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value

Quick Power On

Self Test

is 'enabled'. This category speeds up Power On Self Test after you power up the computer. If you set Enabled, BIOS will shorten or skip some check items during POST.

Swap Floppy

Drive

This item allows you to determine whether enable the swap floppy drive or not.

Boot Up Floppy Seek

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

| | |
|----------|---------------------------------------------------------------------------|
| Enabled | BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks |
| Disabled | BIOS will not search for the type of floppy disk drive by track number |

Boot Up NumLock Status

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on.

Boot Up System Speed

Selects the default system speed - the normal operating speed at power up.

Typematic Rate Setting

This determines if the typematic rate is to be used. When disabled, continually holding down a key on your keyboard will generate only one instance.

Typematic Rate (Chars/Sec)

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

| | |
|----|--------------------------|
| 6 | 6 characters per second |
| 8 | 8 characters per second |
| 10 | 10 characters per second |
| 12 | 12 characters per second |
| 15 | 15 characters per second |
| 20 | 20 characters per second |
| 24 | 24 characters per second |
| 30 | 30 characters per second |

Typematic Delay (Msec)

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

| | |
|------|-----------|
| 250 | 250 msec |
| 500 | 500 msec |
| 750 | 750 msec |
| 1000 | 1000 msec |

Security Option

This category allows you to limit access to the system and Setup, or just to Setup

| | |
|--------|------------------------------------------------------------------------------------------------------------------|
| System | The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt |
| Setup | The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt |

To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

**PCI/VGA
Palette Snoop**

It determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

| | |
|----------|------------------------------------------------------|
| Enabled | When PCI/VGA working with MPEG ISA/VESA VGA Card |
| Disabled | When PCI/VGA not working with MPEG ISA/VESA VGA Card |

**OS Select for
DRAM > 64MB**

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

**Video BIOS
Shadow**

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

**C8000 - CBFFF
Shadow
DC000 - DFFFF
Shadow**

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of onboard SCSI.

This screen controls the setting for the chipset on the mainboard.

* means the LM75 related items, be shown required LM75 component.

ROM PCI/ISA BIOS (2A59IA2D)
 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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| AT Clock, DRAM Timings | |

ROM PCI/ISA BIOS (2A59IA2D)
 CHIPSET FEATURES SETUP
 AWARD SOFTWARE, INC.

| | | |
|----------------------------|-------------|------------------------------------------|
| Auto Configuration | : Enabled | *CPU Warning Temperature : Disable |
| DRAM Timing | : 60ns | *Current CPU Temperature : 30 °C / 87 °F |
| DRAM Leadoff Timing | : 10/6/3 | <i>Only if LM75 exist</i> |
| DRAM Read Burst (EDO/FP) | : x222/X333 | |
| DRAM Write Burst Timing | : x222 | |
| Fast EDO Lead Off | : Disabled | |
| Refresh RAS# Assertion | : 4 Clks | |
| Fast RAS to CAS Delay | : 3 | |
| DRAM Page Idle Timer | : 2 Clks | |
| DRAM Enhanced Paging | : Enabled | |
| Fast MA to RAS# Delay | : 1 Clks | |
| SDRAM (CAS Lat/RAS-to-CAS) | : 3/3 | |
| SDRAM SpeculativeRead | : Disabled | |
| System BIOS Cacheable | : Disabled | |
| Video BIOS Cacheable | : Disabled | Esc : Quit ↑↓→←:Select Item |
| 8-bit I/O Recovery Time | : 1 | F1 : Help PU/PD/+/-: Modify |
| 16-bit I/O Recovery Time | : 2 | F5 : Old Values (Shift)F2 :Color |
| Memory Hole At 15M-16M | : Disabled | F6 :Load BIOS Defaults |
| PCI 2.1compliance | : Disabled | F7 :Load Setup Defaults |

**Auto
Configuration**

Pre-defined values for DRAM, cache..timing according to CPU type & system clock. When this item is enabled, the pre-defined items will become SHOW-ONLY.

DRAM Timing

The DRAM speed is controlled by the DRAM timing Registers. The timings programmed into this register are dependent on the system design.

**DRAM RAS#
Precharge Time**

DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

**Fast RAS# to
CAS# Delay**

When DRAM is refreshed, both rows and columns are addressed separately. This setup item allows you to determine the timing of the transition from RAS to Column Address Strobe (CAS).

**DRAM Read
Burst (EDO/FP)
DRAM Write
Burst Timing**

This sets the timing for burst mode read (or writes)from DRAM. Burst read and write requests are generated by the CPU in four separate parts. The first part provides the location within the DRAM where the read or write is to take place while the remaining three parts provide the actual data. The lower the timing numbers, the faster the system will address memory.

ISA Bus Clock

This item allows you to select the PCI clock type. Choices are PCI CLK/3; PCI CLK/4

System BIOS

When enabled, accesses to the system BIOS

Cacheable

ROM addressed at F0000H-FFFFFFH are cached, provided that the cache controller is enabled.

Video BIOS

Cacheable

As with changing the system BIOS above, enabling the Video BIOS cacheable will cause access to video BIOS addressed at C0000H to C7FFFH to be cached, if the cache controller is also enabled.

8-bit I/O

Recovery Time

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an I/O request. This item allows you to determine the recovery time allowed for 8-bit I/O. Choices are from NA, 1 to 8 CPU clocks.

16-bit I/O

Recovery Time

This item allows you to determine the recovery time allowed for 16-bit I/O. Choices are from NA, 1 to 4 CPU clocks.

Memory Hole At

15M-16M

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory below 16MB.

The BIOS will auto detect if the mainboard have LM75 components or not. If there is LM75, the screen will show these LM75 related items, and these items are *SHOWN ONLY* except “ CPU Warning Temperature “ The following are LM75 related items :

‘CPU Warning Temperature’ set the temperature for CPU warning. When the CPU temperature reaches the setting temperature, the system will lower the CPU clock according to the Throttle Duty Cycle.

‘Current CPU Temperature’ the current temperature of the CPU

This screen controls the 'green' features of this mainboard.

*** are only enabled under ATX power environment**

ROM PCI/ISA BIOS (2A59IA2D)

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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Sleep Timer, Suspend Timer, | |

ROM PCI/ISA BIOS (2A59IA2D)

POWER MANAGEMENT SETUP

AWARD SOFTWARE, INC.

| | |
|------------------------------------|------------------------------------------------|
| Power Management : Disabled | *Reload Global Timer Events* |
| PM Control by APM : Yes | IRQ <i>i</i> 3-7, 9-15 <i>j</i> NMI : Disabled |
| Video Off Method : V/H SYNC+ Blank | Primary IDE 0 : Disabled |
| Video Off After : Standby | Primary IDE 1 : Disabled |
| Doze Mode : Disabled | Secondary IDE 0 : Disabled |
| Standby Mode : Disabled | Secondary IDE 1 : Disabled |
| Suspend Mode : Disabled | Floppy Disk : Disabled |
| HDD Power Down : Disabled | Serial Port : Enabled |
| Throttle Duty Cycle : 62.5% | Parallel Port : Disabled |
| ZZ Active in Suspend : Disabled | |
| VGA Active Monitor : Enabled | |
| Soft-Off by PWR-BTTN : Instant-Off | |
| CPU FAN Off In Suspend : Enabled | |
| Resume by Ring : Enabled | |
| Resume by Alarm : Disable | |
| | Esc : Quit ↑↓→←: Select Item |
| | F1 : Help PU/PD/+/- : Modify |
| | F5 : Old values (Shift) F2: Color |
| | F6 : Load BIOS Defaults |
| | F7 : Load Setup Defaults |
| IRQ 8 Break Suspend : Disabled | |

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes : **Doze; Standby; Suspend; HDD Power Down.**

| | |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disabled | No power management. Disables all 4 modes |
| Min. Power Saving | Minimum power management. Doze =1hr.; Standby=1hr.; Suspend=1hr.; HDD Power Down=15min |
| Max. Power Saving | Maximum power management only available for SL CPU's .Doze=1 min.; Standby=1 min.;Suspend=1 min.;HDD Power Down=1 min |
| User Defined | Allows you to set each mode individually. When not disabled, each of the ranges are from 1min. to 1hr. except for HDD Power Down which ranges from 1 to 15min. and disable |

PM Control by APM

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving Mode and stop the CPU internal clock. If the Max. Power Saving is not enabled, this will be present to NO.

Video Off Method

This determines the manner in which the monitor is blanked.

| | |
|------------------|-------------------------------------------------------------------------------------------------------------------------------|
| V/H SYNC + Blank | This selection will cause the system to turn off the vertical and horizontal sync. ports and write blanks to the video buffer |
| Blank Screen | This option only writes blanks to the video buffer |
| DPMS | Initial display power management signaling |

The Following 4 modes are Green PC power saving function which are only user configuration when 'User Defined' power management has been selected.

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

Standby Mode When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed

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

HDD Power Down When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active

**Wake Up Events
In Doze & Standby**

**Power Down &
Resume Events**

IRQ3 ~ IRQ15

These are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as **On**, even when the system is in a power down mode. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ (Interrupt ReQuests) to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When set off, activity will neither prevent the system from going into a power management mode nor awaken it.

This screen configures the PCI Bus slots.

ROM PCI/ISA BIOS (2A59IA2D)
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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| IRQ Settings, Latency Timers, | |

ROM PCI/ISA BIOS (2A59IA2D)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

| | | | |
|--------------------------|------------|--------------------|-----------------------|
| PNP OS Installed | : No | PCI IDE IRQ Map to | : PCI-AUTO |
| Resources Controlled by | : Auto | Primary IDE INT# | : A |
| Reset Configuration Data | : Disabled | 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 |

Resource
Controlled by

The Award Plug and Play BIOS has the capability to automatically configure all of the boot and “ Plug and Play ” compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play OS such as Windows 95 Choices are Auto and Manual

**Reset Config-
uration Data**

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

PCI IDE IRQ
Map To

This allows you to configure your system to the type of IDE disk controller in use. If you have equipped your system with a PCI controller, changing this allows you to specify which slot has the controller and which PCI interrupt (A,B,C,D) is associated with the connected hard disk. Select ‘PCI Auto’ allows the system to automatically determine how your IDE disk system is configured.

This section page includes all the items of IDE hard drive and Programmed Input/Output features. See also Section “Chipset Features Setup”.

ROM PCI/ISA BIOS (2A59IA2D)
 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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Time, Date, Hard Disk Type | |

ROM PCI/ISA BIOS (2A59IA2D)
 INTEGRATED PERIPHERALS
 AWARD SOFTWARE, INC.

| | | | |
|---------------------------|--------------|-----------------------|-----------------------|
| IDE HDD Block Mode | : Enabled | Onboard Parallel Port | : 378H/IRQ7 |
| IDE Primary Master PIO | : Auto | Parallel Port Mode | ECP |
| IDE Primary Slave PIO | : Auto | ECP Mode Use DMA | : 3 |
| IDE Secondary Master PIO | : Auto | | |
| IDE Secondary Slave PIO | : Auto | | |
| IDE Primary Master UDMA | : Auto | | |
| IDE Primary Slave UDMA | : Auto | | |
| IDE Secondary Master UDMA | : Auto | | |
| IDE Secondary Slave UDMA | : Auto | | |
| On-Chip Primary PCI IDE | : Enabled | | |
| On-Chip Secondary PCI IDE | : Enabled | | |
| USB Keyboard Support | : Disabled | | |
| KBC input Clock | : 8MHz | | |
| Onboard FDC Controller | : Enabled | Esc: Quit | ↑↓→← :Select Item |
| Onboard Serial Port 1 | : 3F8 / IRQ4 | F1 : Help | PU/PD/+/- : Modify |
| Onboard Serial Port 2 | : 2F8 / IRQ3 | F5 : Old Values | (Shift) F2: Color |
| | | F6 | : Load BIOS Defaults |
| | | F7 | : Load Setup Defaults |

IDE HDD Block Mode

This allows your HD controller to use the fast block mode to transfer data to and from your HD drive.

| | |
|----------|-----------------------------------|
| Enabled | IDE controller uses block mode |
| Disabled | IDE controller uses standard mode |

IDE Primary Master/Slave PIO
IDE Secondary Master/Slave PIO

PIO - Programmed Input / Output, it allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. This is simpler and more faster. Your system supports five modes, 0 - 4, which primarily differ in timing. When **Auto** is selected, the BIOS will select the best available mode.

On-Chip Primary PCI IDE
On-Chip Secondary PCI IDE

This setup item allows you either to enable or disable the primary/secondary controller. You might choose to disable the controller if you will add a higher performance or specialized controller.

This section page includes all the items of IDE hard drive and Programmed Input/Output features. See also Section “IDE HDD Auto Detection”.

ROM PCI/ISA BIOS (2A59IA2D)
 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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Time, Date, Hard Disk Type | |

ROM PCI/ISA BIOS (2A59IA2D)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

| Hard Disks | Type | Size | CYLS | HEAD | PRECOMP | LANDZ | SECTOR | MODE |
|---------------------------------------------------------------------|------|------|------|---------|---------|--------|--------|------|
| Primary Mster : | | | | | | | | |
| Select Primary Master Option (N=Skip) : N | | | | | | | | |
| Options | Size | CYLS | Head | PRECOMP | LANDZ | Sector | Mode | |
| 2(Y) | 1337 | 648 | 64 | 0 | 2594 | 63 | LBA | |
| 1 | 1339 | 2595 | 16 | 65535 | 2594 | 63 | NORMAL | |
| 3 | 1338 | 1297 | 32 | 65535 | 2594 | 63 | LARGE | |
| Note : Some Oses (like SCO-UNIX) must use “Normal” for installation | | | | | | | | |
| ESC : Skip | | | | | | | | |

The last step is 'save and exit'. If you select this item and press 'Y', then these records will be saved in the CMOS memory on the mainboard. It will be checked every time when you turn your computer on.

ROM PCI/ISA BIOS (2A59IA2D)
 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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Time, Date, Hard Disk Type | |

| | |
|--------------------------------------------------|-------------------------------|
| 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 BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | SAVE to CMOS and EXIT (Y/N):Y |
| ESC: Quit | ↑↓→←:Select Item |
| F10: Save & Exit Setup | (Shift) F2 : Change Color |
| Auto-Configure HDD: Sector, Cylinder, Head | |

LOAD BIOS DEFAULTS

When your mainboard has problems and need to debug or troubleshoot the system, you can use this function.

The default values loaded only affect the BIOS Features Setup, Chipset Features Setup, Power Management Setup and PNP/PCI Configuration Setup. There is no effect on the Standard CMOS Setup. To use this function, select it from main menu and press <Enter>.

A line will appear on the screen asking if you want to load the BIOS default values. Press <Yes> and <Enter> then the BIOS default values will be loaded.

LOAD SETUP DEFAULTS

This allows you load optimal settings which are stored in the BIOS ROM to get better performance. The default values loaded only affect the BIOS Features Setup, Chipset Features Setup, Power Management Setup and PNP/PCI Configuration Setup. There is no effect on the Standard CMOS Setup. To use this function, select it from main menu and press <Enter>.A line will appear on the screen asking if you want to load the Setup default values. Press <Yes> and <Enter> then the Setup default values will be loaded.

SUPERVISOR PASSWORD / USER PASSWORD

This allows you to set the password. The mainboard default password was disabled.

Enter/Change password : Enter the current password, at the prompt key-in your new password (up to eight alphanumeric characters), press <Enter>. At the next prompt, confirm the new password by typing it and press <Enter> again.

Disable password : Press <Enter> key instead of entering a new password when the 'Enter Password' dialog box appears. A message will appear confirming that the password is disable.

If you set both supervisor and user passwords, only the supervisor password allows you to enter the BIOS SETUP program.

CAUTION :If you forget your password, you must disable the CMOS by turning power off set JP3 to 1,2 for 2 seconds to clear CMOS then set JP3 back to 2,3 and set JP3 'open'. Then reload the system.

IDD HDD AUTO DETECTION

This allows you to detect IDE hard drives. parameters and enter them into 'Standard CMOS Setup' automatically.

If the auto-detected parameters displayed do not match the ones that should be used for your hard drive, do not accept them. Press <N> to reject the values and enter the correct ones manually on the Standard CMOS Setup screen.

SAVE & EXIT SETUP

This allows you to save the new setting values in the CMOS memory and continue with the booting process. Select what you want to do, and press <Enter>.

EXIT WITHOUT SAVING

This allows you to exit the BIOS setup utility without recording any new values or changing old ones.

° Control Key Description °

| | | |
|-------------|--------------------|-------------------------------------------------------------------------------------------------|
| UP ARROW | ° | Move to previous item |
| DOWN ARROW | ° | Move to next item |
| LEFT ARROW | ° | Move to the item in the left hand |
| RIGHT ARROW | ÷ | Move to the item in the right hand |
| Esc KEY | Esc | Main Menu : Quit and not save changes Setup menu : Exit current page and return to main menu |
| PgUp KEY | | Increase the numeric value or make changes |
| PgDn KEY | | Decrease the numeric value or make changes |
| F1 KEY | Help | General help |
| F2 KEY | °Shift; °+F2 | Change color from total 16 colors |
| F5 KEY | Old Value | Restore the pervious CMOS value from CMOS |
| F6 KEY | Load BIOS default | Load the default CMOS value from BIOS default table |
| F7 KEY | Load setup default | Load Setup default |
| F10 KEY | Save & Exit Setup | Save all the CMOS changes and Exit setup, only for Main Menu |

APPENDIX A

TECHNICAL SUPPORT REQUEST FORM

If the mainboard doesn't function properly, please complete the following information and return it to your system dealer. If the further information is needed, please attach this separating sheets.

Model No : ATC-5050 **Date of Purchase :** _____

Serial No : _____

HARDWARE :

| | BRAND | MODEL | SPEED | Q'TY |
|-------------------|-------|-------|-------|------|
| CPU | | | | |
| SIM Module | | | | |
| PB SRAM on Board | | | | |
| TAG SRAM | | | | |
| Sync. SRAM Module | | | | |

SIMM : _____ MB (___ EDO, ___ FastPage)

Hard Disk Interface Controller : ___ IDE, ___ SCSI

Hard Disk Brand : _____, Model : _____, Capacity : _____

Display Controller Brand : _____, Model : _____

Controller Chip Brand : _____, Model : _____

AWARD SYSTEM BIOS: Version _____ Date Code _____

Keyboard BIOS: Brand _____

Other Add-on Cards Information:

| Add-on Card | Bus Interface | Model | Remark |
|-------------|---------------|-------|--------|
| | | | |
| | | | |
| | | | |

Error Description :