R860

Special FORM, SiS M650/962 Chipset.
USER'S MANUAL

R860

USER'S MANUAL

PCB Ver. A2

Manual Ver. 40830

Introduction

Thanks for choosing the Rise Computer Inc. The next generation high performance Socket 478 motherboard “R860”. The uses the high performance SiS M650/962 chipset that will deliver superior performance to your computer.

About This User’s Guide

This User’s Guide is for assisting system manufactures and end user in setting up and installing the motherboard. Information in this guide has been carefully checked for reliability, however, there may still be inaccuracies and information in this document is subject to change without notice.

DISCLAIMER

The information in this manual has been carefully checked and is believed to be accurate. We assume no responsibility for any inaccuracies that may still be contained in this manual. We reserve the right to make changes to this material at any time without notice.

REMARK

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http://www.rise.com.tw

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Chapter 1 : Quick Installation

1.1 Item Checklist

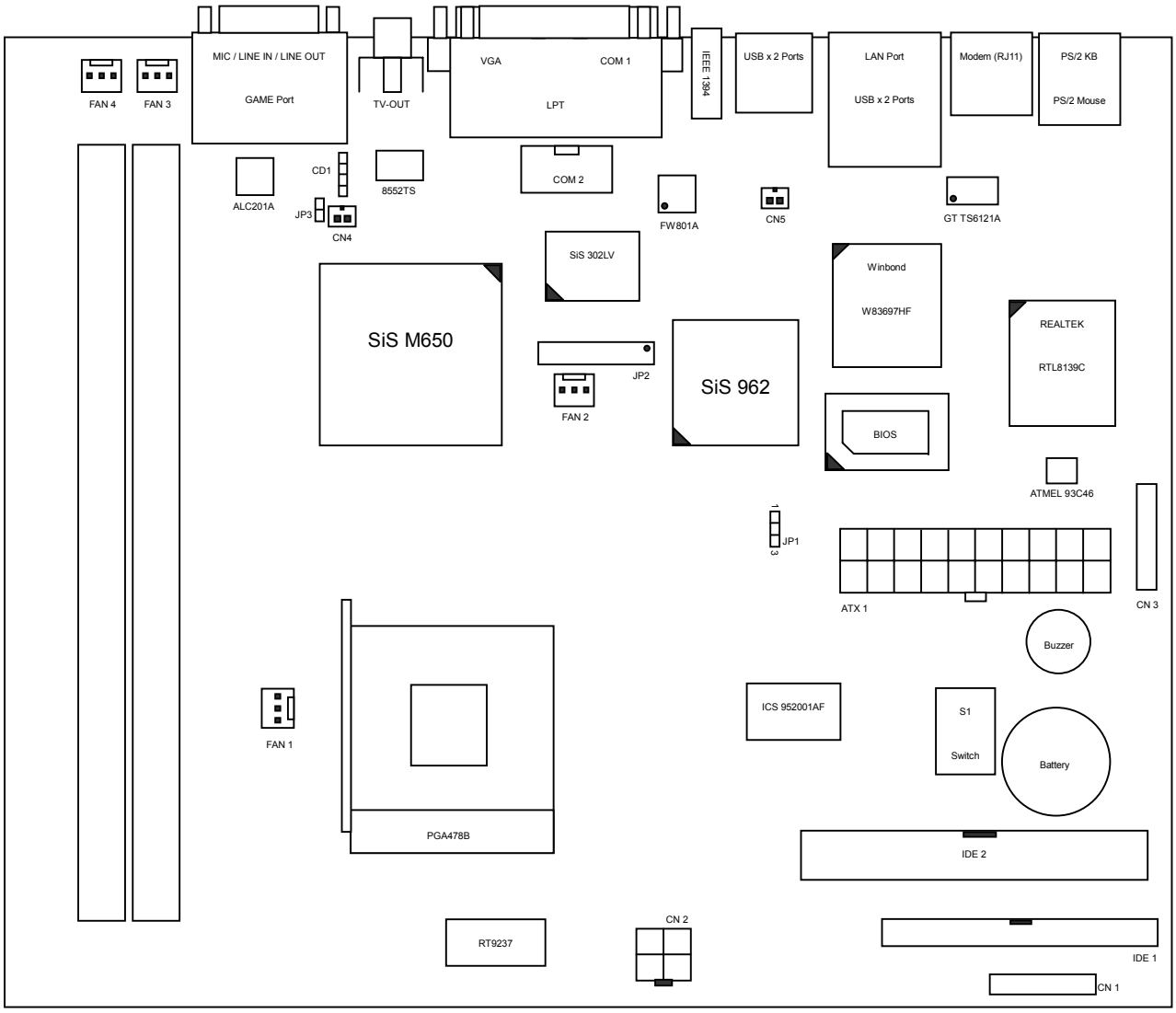
[√] R860 Motherboard

[√] S-Video <> AV Video cable

[√] 40-pin ATA 100/133 cable

[√] Driver CD

1.2 Layout

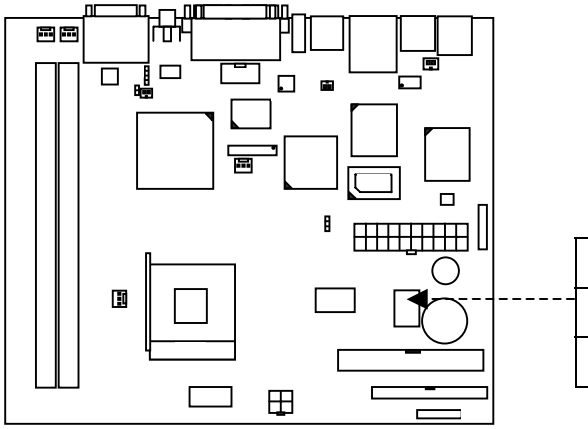

MIC / LINE IN / LINE OUT
GAME Port
TV-OUT
VGA
COM 1
LPT
IEEE 1394
USB x 2 Ports
LAN Port
USB x 2 Ports
Modem (RJ11)
PS/2 KB
PS/2 Mouse
FAN 4
FAN 3
CD1
8552TS
COM 2
ALC201A
JP3
CN4
FW801A
CN5
GT TS6121A
SiS 302LV
Winbond
W83697HF
SiS M650
REALTEK
RTL8139C
JP2
FAN 2
SiS 962
BIOS
ATMEL 93C46
JP1
ATX 1
CN 3
Buzzer
FAN 1
ICS 952001AF
S1
Switch
Battery
PGA478B
IDE 2
CN 2
RT9237
IDE 1
CN 1

1.3 CPU Clock Setting

S1 : CPU Clock Setting

100MHz (400MHz CPU Clock Frequency)

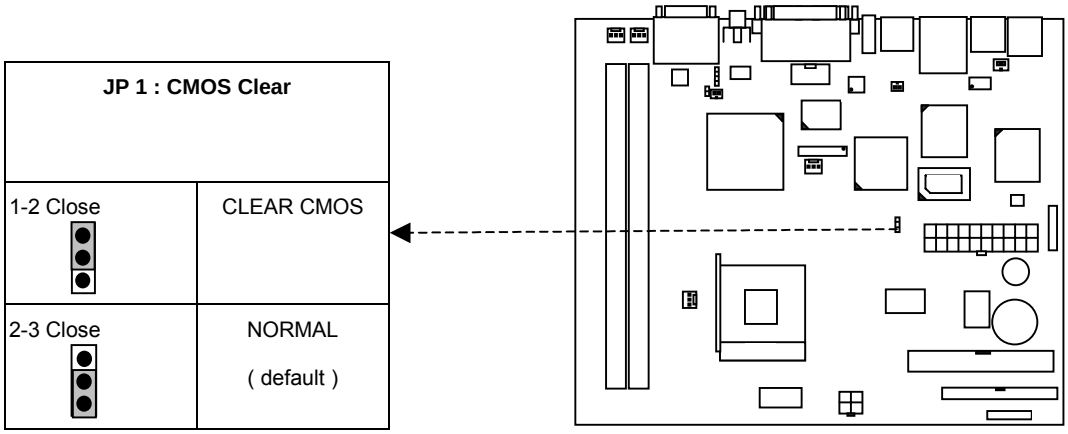
133MHz (533MHz CPU Clock Frequency)



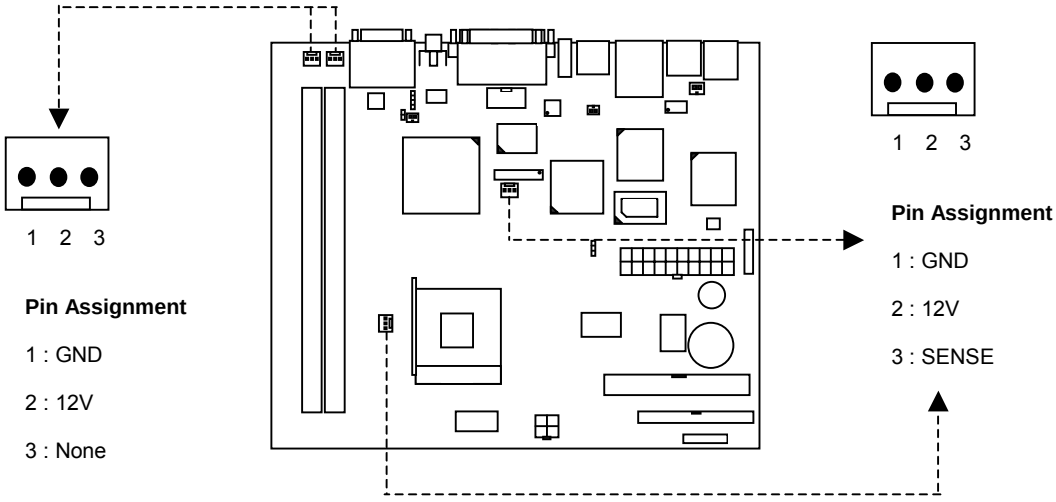
S1 : CPU Clock Setting	
100MHz	On On Off Off Off (1~5)
133MHz	Off On On Off On (1~5)

1.4 Jumper & Connectors :

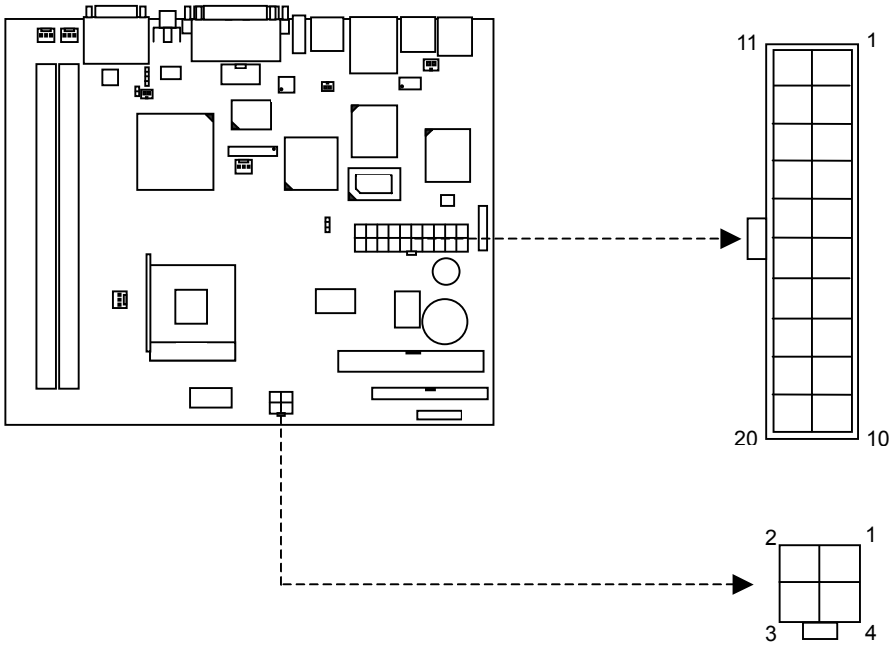
JP1 : CMOS Clear



CPU & CHASSIS FAN Header : Connect RED line to 12V.

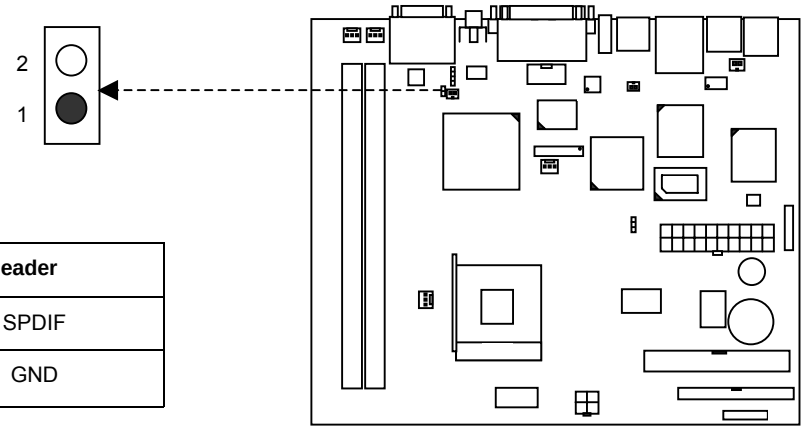


ATX Power Connector



ATX1			
PIN NO	**Definition**	**PIN NO**	**Definition**
1	+3.3V	**11**	+3.3V
2	+3.3V	**12**	-12V
3	GROUND	**13**	GROUND
4	+5V	**14**	Power Supply On
5	GROUND	**15**	GROUND
6	+5V	**16**	GROUND
7	GROUND	**17**	GROUND
8	Power Good	**18**	-5v
9	+5V Standby	**19**	+5v
10	+12V	**20**	+5v
CN2			
1	GND	**3**	+12V
2	GND	**4**	+12V

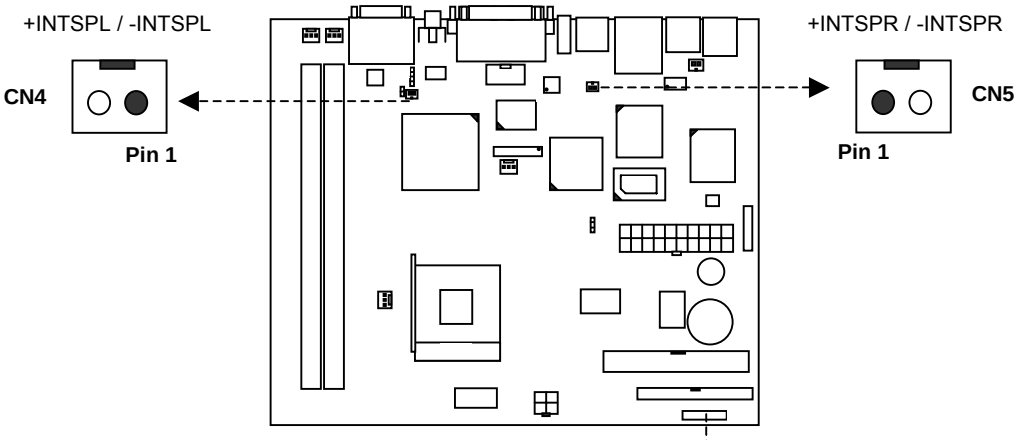
JP3 : SPDIF Header.



SPDIF Header	
Pin 1	SPDIF
2	GND

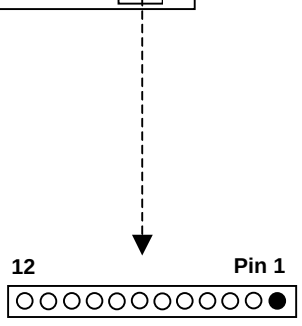
CN4 : Speaker – Right Channel

CN5 : Speaker – Left Channel.

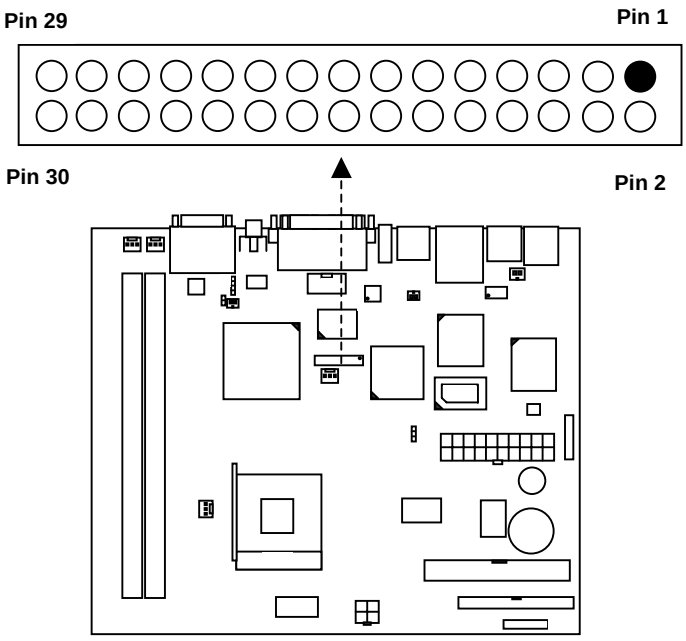


CN1 : Inverter Header.

CN1	
Pin 1, 3, 5, 6, 8, 9	GND_LCD
Pin 2	BRIGHT
Pin 4	LIGHT_ON
Pin 7	None
Pin 10, 11, 12	+12V

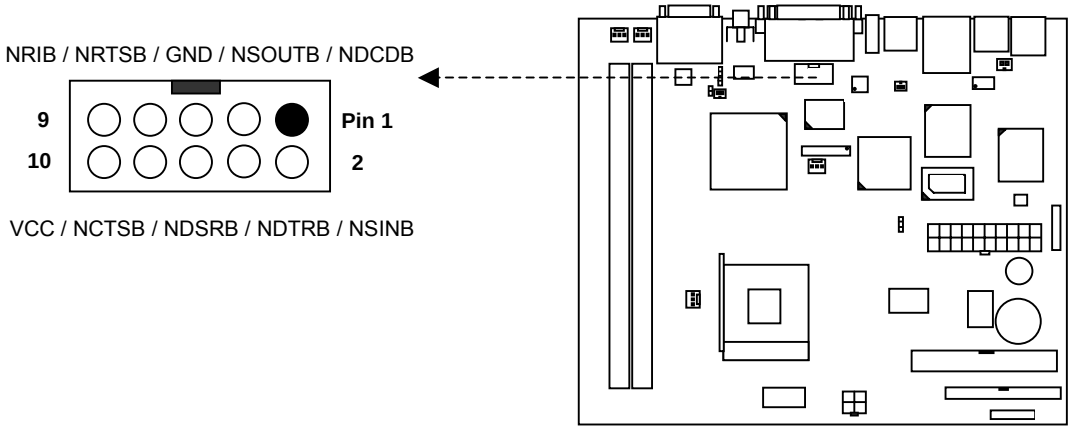


JP2 : LVDS Header

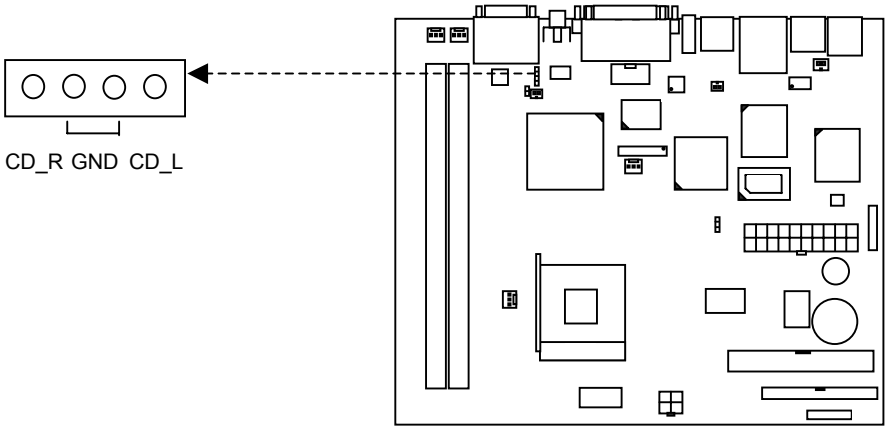


LVDS			
1	LDC0-	16	LDC5+
2	LDC0+	17	GND
3	LDC1-	18	LDC6-
4	LDC1+	19	LDC6+
5	LDC2-	20	LL2C-
6	LDC2+	21	LL2C+
7	GND	22	LDC7-
8	LL1C-	23	LDC7+
9	LL1C+	24	GND
10	LDC3-	25	None
11	LDC3+	26	VADE
12	LDC4-	27	None
13	LDC4+	28	LCDVDD
14	GND	29	LCDVDD
15	LDC5-	30	LCDVDD

COM2 :

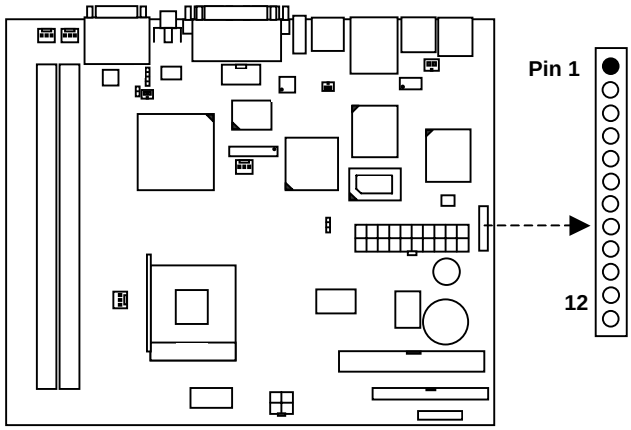


CD1 : CDROM Audio Connect Pin.



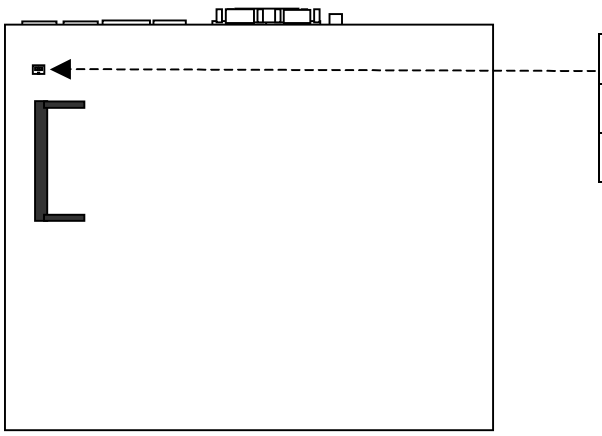
CN3 : Front Panel Control Header.

CN3	
Pin 1, 2	Power On
Pin 3, 4	Reset
Pin 5, 6	LCD Up / Down
Pin 7, 8	Sound Up / Down
Pin 9, 10	Power LED
Pin 11, 12	HDD LED



CN6 : Mini-PCI Modem Card Connect Pin

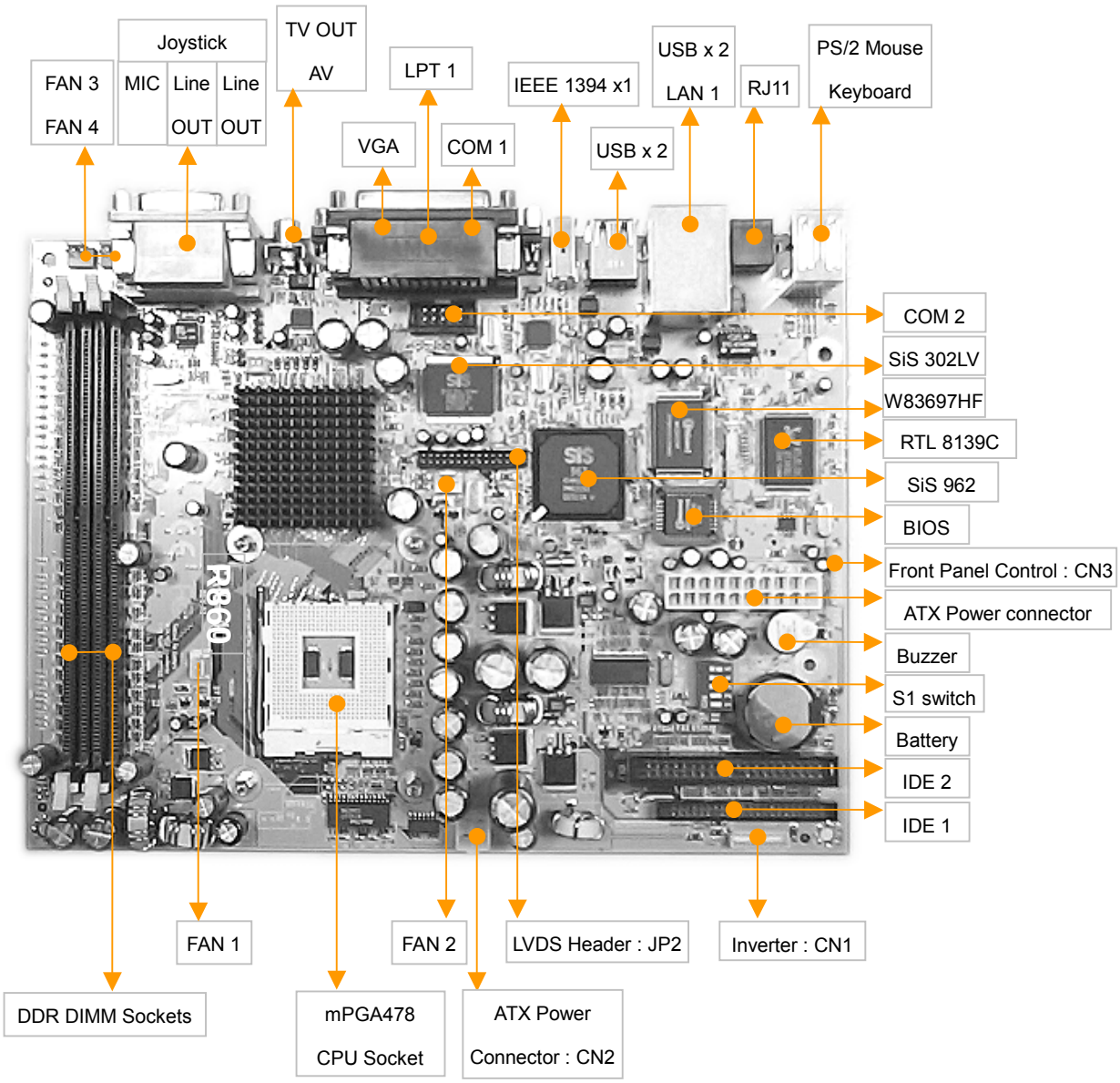
(BACKSIDE)



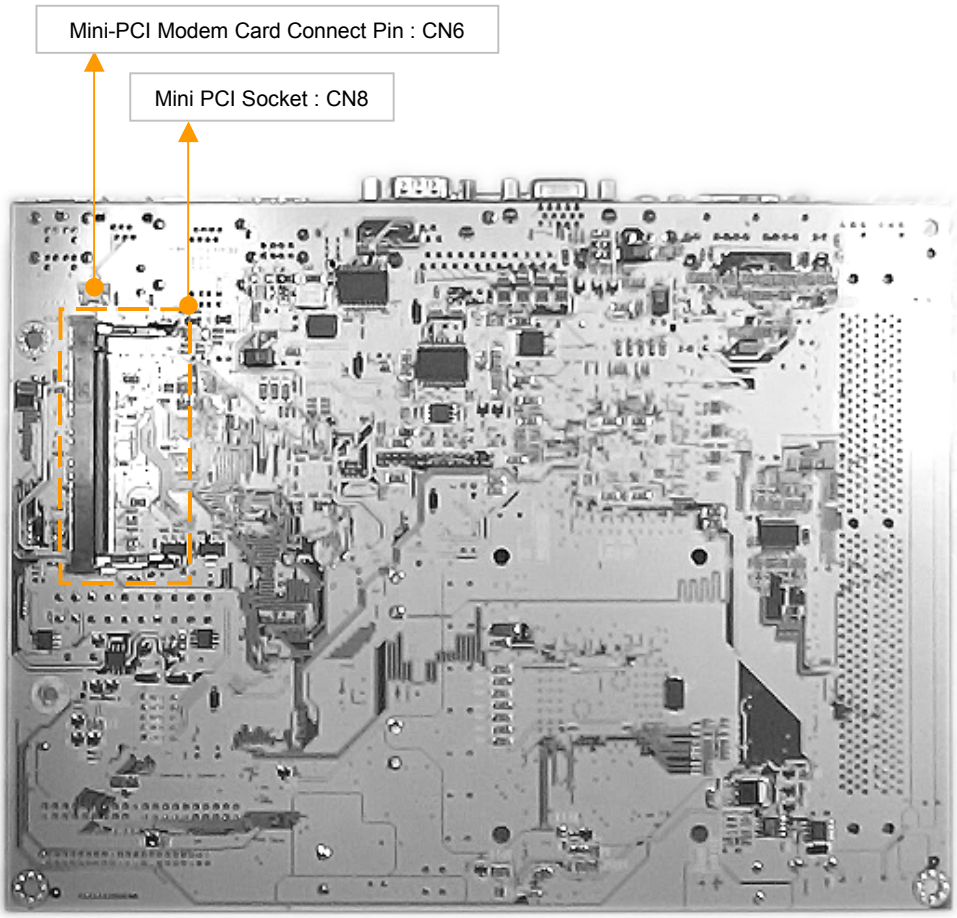
CN6	
Pin 1	TIP
Pin 2	RING

2. Feature

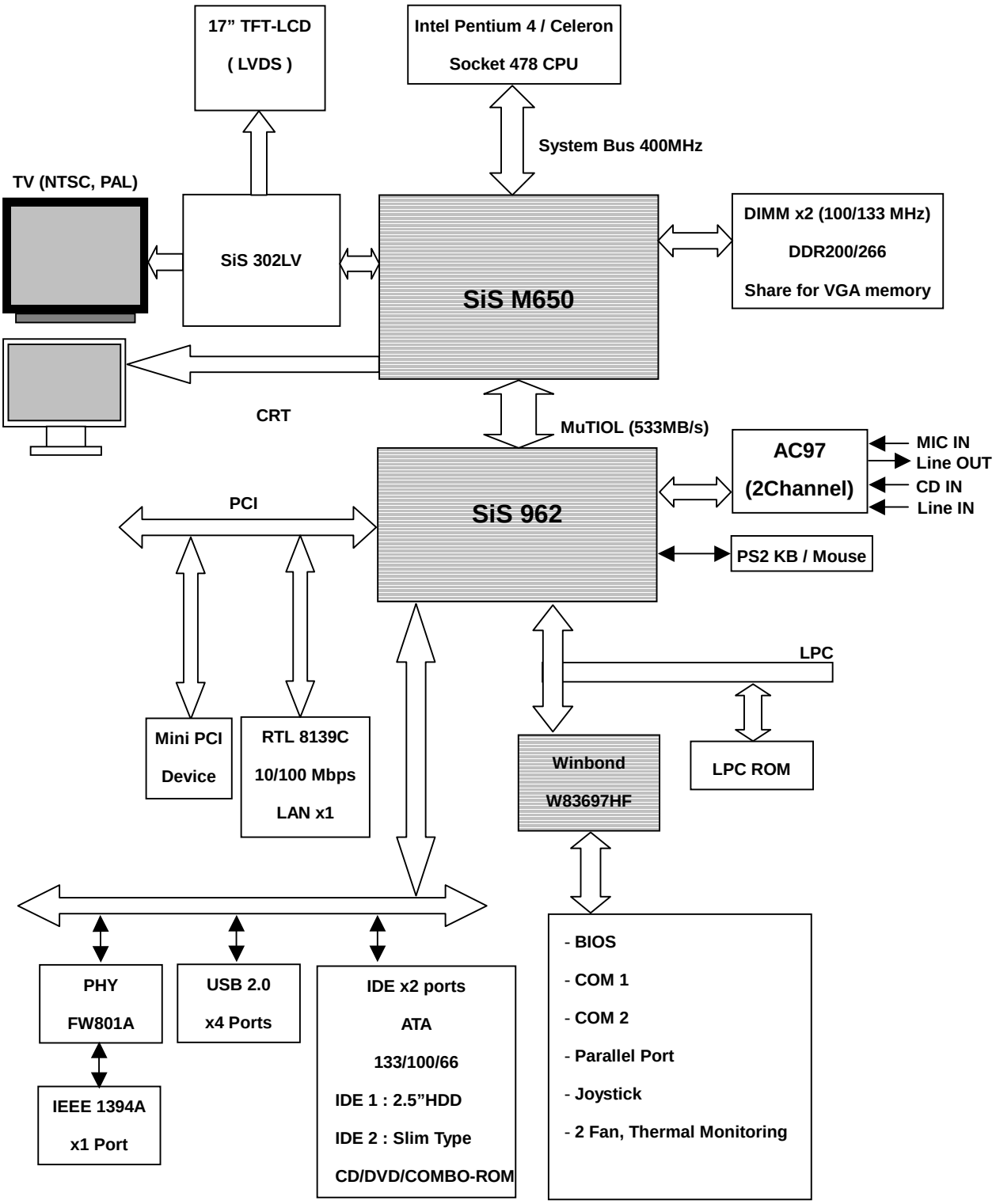
2.1 R860 Motherboard (PCB Ver. A1) Components Placement



R860 (PCB Ver : A1) Backside :



2.2 Block Diagram



2.3 Motherboard Specifications

Processor	Support Intel Pentium4 – 400/533MHz system bus: 1.70GHz ~ 3.06GHz Celeron – 400/533MHz system bus: 1.20GHz ~ 2.8GHz.
Chipset	SiS M650 / 962.
Expansion Slot	Mini-PCI Slot.
System memory	2 X DIMM (100/133MHz) DDR200/266/333, up to 1GB.
VGA	● Integrated in SiS M650 (Shared memory 2 ~ 64MB) (CRT : Support to 640x480 ~ 1280x720 resolutions)
LVDS / TV-OUT	● SiS 302LV chip (LVDS : Support to 640x480 / 800x600 / 1024x768 / 1280x1024 resolutions) (TV-OUT : Support NTSC/PAL 640x480 / 800x600 / 1024x768 resolutions)
Network	● Realtek 8139C 10/100Mbps Lan chip x 1.
Onboard I/O	● PS/2 Keyboard and Mouse Support. ● RJ-11 Modem Port x1. ● 1 LAN ports for RJ-45 cable. ● Supports 4 X USB (2.0) Ports. ● IEEE 1394a x1 port. ● 2 Serial Ports (16550 Fast UART Compatible). ● 1 Parallel Port (ECP,EPP Port). ● 1 VGA Port. ● 1 TV-OUT port (Composite Video) ● Sound (Line Out / Line In / MIC) (ALC201A codec, AC97, 2 channel) Port. ● 1 Joystick Port ● .PCI Bus Master IDE Ports : support Ultra DMA 133/100/66..
Switching Voltage Regulator	Support VRM ver. 8.4
BIOS	BIOS with DMI, Green Fun., PnP, and Anti-virus. Support USB/LS120/ZIP/CD-ROM Booting 2MB Firmware
Dimension	240mm x 180mm, Special Size.

Advance Features :

Power Management :

- "Advance Configuration Power Interface" (ACPI) Standard ready for PC'99.
- Power Off by Windows 98/ME/XP Shut Down & Soft Power Switch (ATX Power Require)

Monitoring Function :

- Vital voltages on the power supply.

- CPU temperature.
- CMOS battery voltage.
- Fan speed, and Hard drive memory resources.

CD-ROM :

- USB 2.0 Driver.
- Video Driver.
- Audio Driver.
- Lan Driver
- User's Manual

3. Hardware Setup

3.1 Before Installation

For installation, you may need tool (screwdriver).

Users must follow these guidelines to ensure the motherboard is protected during installation.

1. Make sure your computer is powered-off whenever work in with inside components.

2. The motherboard, like all other electronic equipment, is sensitive to static. Please take the proper precautions when handling it. If possible, ground yourself by touching a metal table or desk. Keep the board in its conductive wrapping until it is configured and ready to be installed in your system.

3. Keep all magnets away from both your hard and floppy disk drives, especially magnetic screwdrivers. Keep both floppy and hard disks apart if disassembled.

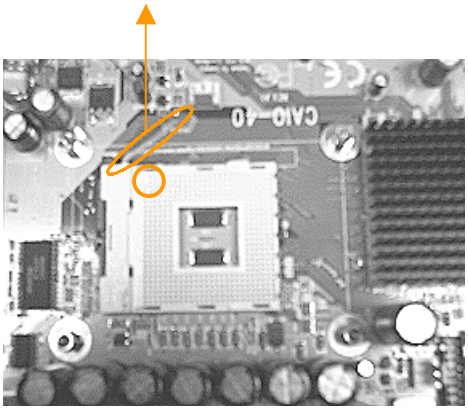
4. Keep water and liquids away from your computer and its components

3.2 Install the CPU

The CPU should have a fan attached to it to prevent overheating. If this is not the case, then purchase a fan before you turn on your system.

Be sure that there is sufficient air circulation across the CPUs heat sink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could overheat and damage both the CPU and the motherboard. You may install an auxiliary fan, if necessary.

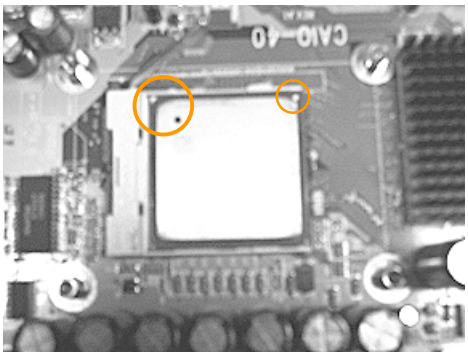
Step 1 : Locate the ZIF socket and open it by first pulling the lever of socket upward.



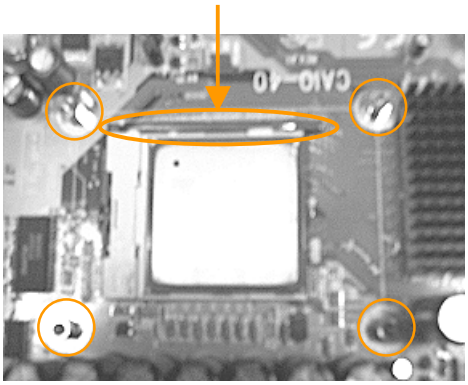
Step 2 : Insert the CPU into the socket. Please keep the lever angle when inserting CPU.

When inserting the CPU please note the correct orientation as shown.

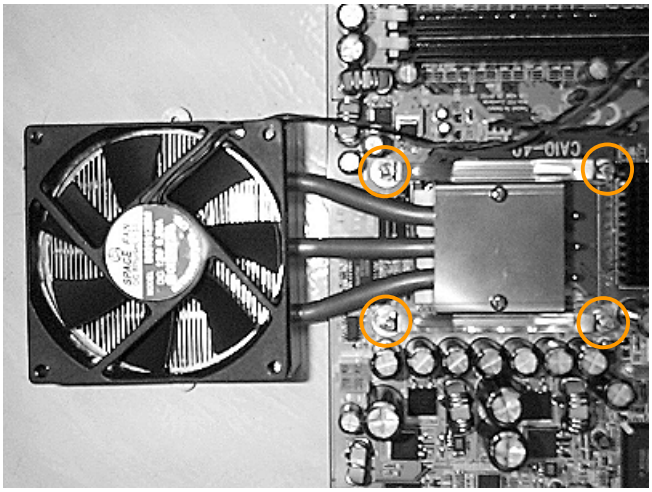
The notched corner should point toward the end of the lever.



Step 3 : Push the lever down to close the socket.



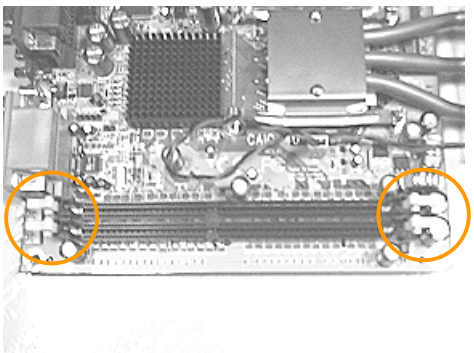
Step 4 : Attach the heat sink onto the CPU. Be careful not to scrape the motherboard when mounting a clamp CPU fan or else damage may occur to the motherboard. Attach the fan cable to the CPU fan header.



3.3 Install Memory Modules

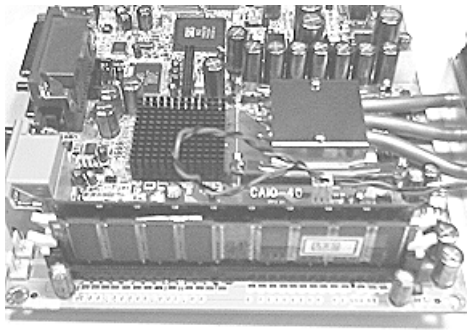
The motherboard has one Memory Module (DIMM) sockets and supports the maximum size up to 512MB. These DIMM sockets only support 3.3V SDRAM (Synchronized DRAM) modules of 32, 64, 128, 256, 512MB.

Step 1 : Open latches of DIMM socket.



Step 2 : Proofread the RAM module to the DIMM socket.

Step 3 : Insert the RAM module into the DIMM socket. Press the latches into the notches of the RAM module.



3.4 ATX Power Supply Connector

"In order to support the power up function other than power/soft-off button, such as Wake-On-LAN, your ATX power supply must supply at least 720mA, 5VSB".

Power on procedures

STEP	Description
1	After all connections are made, close the system case over.
2	Be sure that all switches are off.
3	Connect the power cord into the power supply located on the back of your system case.
4	Connect the power cord a power out let that is equipped with a surge protector.
5	Many of the power supply support 110V/220V by a switch setting. Switch your power supply to the correct supply voltage.
6	Turn on your system in the following order 1. The monitor 2. The external devices. 3. The computer system.

"The power LED on the front panel of the chassis will light. After few seconds, the system will then run power-on tests. Some additional messages will appear on the screen during the test. If you do not see anything within 30 seconds from the time you turn on the power, the system may have failed a power-on test. Recheck the jumper settings and connections or call your retailer for assistance."

Power off procedures

STEP	Description
1	Exit from all the software applications.
2	Shut down your operating system.
3	Switch off power button. If you are using Win 98/ME/XP, the power supply should turn off automatically after Windows shut down.
4	Turn off all external devices.
5	Turn off you monitor.

3.5 Back Panel

Function	Color	Description
PS/2 Mouse	Green	This connector can be used to support a PS/2 mouse
PS/2 Keyboard	Purple	This connector can be used to support a PS/2 keyboard.
RJ-11 Modem	Black	This connector can be used to connected phone line.
Universal Serial Bus	Black	This motherboard has four USB ports, any USB compatible peripherals and hub can be connected into either USB port.
LAN port : LAN 1, LAN 2.	Black	This connector can be used to support RJ-45 cable.
IEEE 1394a	White	This connector is used for IEEE 1394a device.
Serial port : COM 1, COM2	Green	One serial port is ready for a modem or other serial devices Com 2 serial port is jumper header..
Parallel port	Purple	This connector is used for printers, or other parallel devices.
TV-OUT : Composite video	Yellow	This connector is used for AV to TV.
Line Out, Line In, MIC, Joystick	Gold	**Line Out (Lime Color) :** can be connected to headphones or powered speakers. **Line In (Light Bule Color) :** allows audio sources to be recorded by your computer or play through the Line Out connector. **MIC (Pink Color) :** allows microphones to be connected for inputting voice. **Joystick (Yellow Color) :** can be connect to joysticks or game pads for playing game, or connect MIDI devices for playing / editing professional audio..

Chapter 4. BIOS Setup

4.1 Flash BIOS

The BIOS can be upgraded from a diskette with the Award Flash utility – AWDFLASH.EXE The BIOS image file, and update utility are available from RISE website “http://www.rise.com.tw”

How to Update BIOS (Flash ROM)

1. Copy the Flash Utility to a bootable diskette. Ex : C:\>copy awdflash.exe a:
2. Copy the new bios file to the diskette. Ex : C:\>copy filename.bin a:
3. Turn the system on and run the Flash Utility.
   Ex : A:\>awdflash filename.bin /cc (/cc is Clear CMOS).
4. Follow the prompt and input the file name.
   ”Do You Want To Save Bios (Y/N)” – Press “Y” : please input file name [Enter].
   The program will backup your old bios.
   Press “N” : “Are you sure to program (y/n)”, please press “y” and flash bios.
5. After flashed, press F1 to reboot your computer and press <DEL> to enter BIOS Setup, setting CMOS data (because used “/cc” this function will clear CMOS data), then Save & Exit Setup.

4.2 Enter BIOS Setup program

Power on the system by either pressing the Power On button, or by using and of the power on features provided by the motherboard. Then, press the <DEL> key after the Power On Self Test (POST), and before the scanning of IDE devices, Simply look for the message “Press F1 to continue, DEL to enter SETUP” displayed at the bottom of the screen during the boot up process. If the message disappears before you’ve had a chance to respond, you can restart the system by Turning off the system power then turn it on again, or Pressing the Pressing the “RESET” button on the system case, or Pressing <CTRL>, <ALT> and <DEL> keys simultaneously.

Generally, the BIOS default settings have been carefully chosen by the system manufacturer to provide the absolute maximum performance and reliability. It is very dangerous to change any setting without full understanding. We strongly recommend that you.

DO NOT update your BIOS if the system works perfectly.

DO NOT change any setting unless you fully understand what it means.

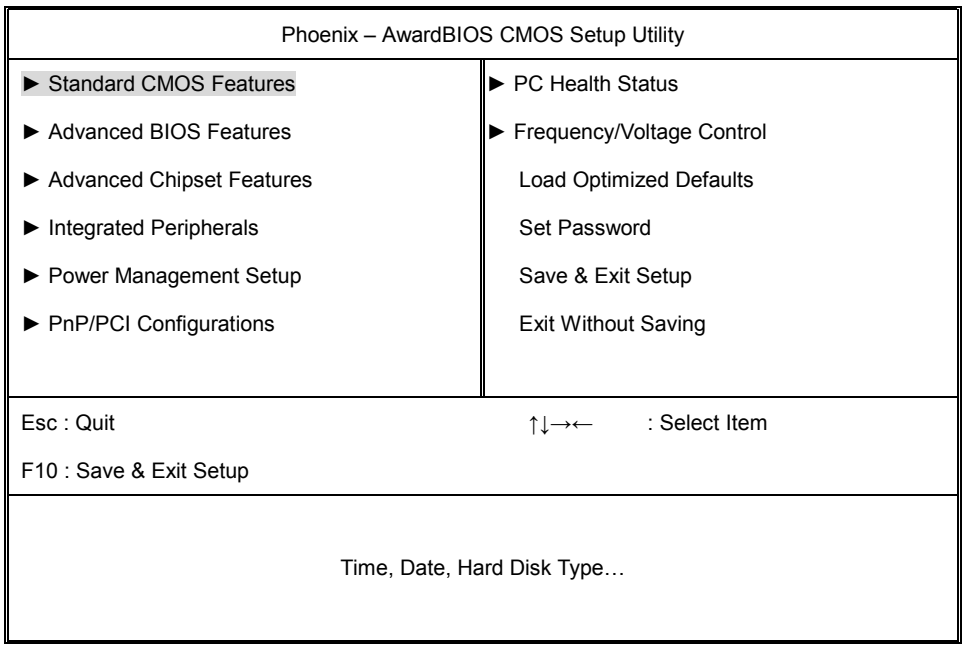
Using BIOS setup program

Up ↑	Move to the previous field
Down ↓	Move to the next field
Left ←	Move to the field on the left hand side
Right →	Move to the field on the right hand side
<ESC>	Quit from setup program without saving changes, or Exit from current menu page and return to main menu page
<Page Up> or <+>	Select the previous value for a field
<Page Down> or <->	Select the next value for a field
<F1>	General Help
<F2>	Item Help
<F5>	Previous Values
<F6>	Fail-Safe Defaults
<F7>	Optimized Defaults.
<F10>	Save the current value and exit setup program

If the system is no longer able to boot after changing the settings, the only way to recover it is to clear the data stored in RTC CMOS. To reset the RTC CMOS data, take the **JP1** jumper cap off pins 2-3 place onto pins 1-2, and then place back onto pins 2-3 again. This will return the RTC to the default setting. Then, get into the BIOS setup program, choose Load Fail-Safe Defaults ; Load Optimized Defaults, and select the original manufacturer default settings in you CMOS.

4.3 Main Menu

The main menu allows you to select from several setup pages. Use the arrow keys to select among these pages and press <Enter> key to enter the sub-menu. A brief description of each highlighted selection appears at the bottom of the screen.



4.4 Standard CMOS Features

Phoenix – AwardBIOS CMOS Setup Utility Standard CMOS Features		
Date (mm:dd:yy)	Thu, Sep 5 2002	Item Help
Time (hh:mm:ss)	17 : 21 : 53	Menu Level ►
► IDE Primary Master	[None]	Change the day, month, year and century.
► IDE Primary Slave	[None]	
► IDE Secondary Master	[None]	
► IDE Secondary Slave	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	228352K	
Total Memory	229376K	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Date**

  This field specifies the current date. The date format is <month>, <day>, and <year>.

- **Time**

  This field specifies the current time. The time format is <hour>, <minute>, and <second>.

  The time is calculated based on the 24-hour (military-time) clock.

- **IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave**

  Press “Enter” to enter next page for detail hard drive setting.

  1. IDE HDD Auto-Detection : [Press Enter]

     To auto-detect the HDD’s size, and its parameters, ex : Cylinder, Head and Sector.

  2. IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave

     This field specifies type of drive that corresponds to the drive installed in your system.

     If you select User, please specify the correct number of Cylinders, Heads, and Sectors.

Manual	Selecting annual lets you set the remaining fields on this screen. Selects the type of fixed disk.
Auto (Default Value)	BIOS automatically fills in the values for the cylinders, heads and sectors fields.
None	Any Disk Drives are attached

3. Access MODE

This field specifies the IDE translation mode.

CHS (Normal)	Specifies traditional CHS addressing mode.
LARGE	Specifies extended CHS translation mode.
LBA	Specifies LBA translation mode
AUTO (Default Value)	BIOS specifies translation method automatically

4. Capacity Auto Display you disk drive size.

5. Cylinders : Set the number of cylinders for this hard disk.

6. Head : Set the number of read/write heads.

7. Precomp : Set the value = 0.

8. Landing Zone : Set the value = cylinders number - 1

9. Sector : Set the number of sectors per track.

■ Video

EGA/VGA (Default)	Specifies EGA or VGA adapter
CGA 40	Specifies CGA adapter with 40 column mode
CGA 80	Specifies CGA adapter with 80 column mode
MONO	Specifies Monochrome adapter

■ Halt On

All Errors	Each time the BIOS detects a non-fatal error, the system will stop and display an error message
No Errors	The system will stop for any errors that are detected
All, But Keyboard (Default)	The system will stop for any errors except keyboard error
All, But Diskette	The system will stop for any errors except diskette error
All, But Disk/Key	The system will stop for any errors except diskette and key board errors.

- **Base Memory**

  The POST (Power On Self Test) determines the amount of base (conventional) memory installed in the system. The value of the base memory is typically 640K. This field has no options.

- **Extended Memory**

  The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the processor's memory address map. This field has no options.

- **Total Memory**

  Displays the total memory available in the system.

4.5 Advanced BIOS Features

Phoenix – AwardBIOS CMOS Setup Utility Advanced BIOS Features		
Virus Warning	[Disabled]	Item Help
CPU L1 & L2 Cache	[Enabled]	Menu Level ►
CPU L2 Cache ECC Checking	[Enabled]	Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.
Quick Power On Self Test	[Enabled]	
First Boot Device	[USB-FDD]	
Second Boot Device	[HDD-0]	
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Swap Floppy Seek	[Disabled]	
Boot Up Floppy Seek	[Disabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	[Enabled]	
MPS Version Control For OS	[1.4]	
OS Select For DRAM > 64MB	[Non-OS2]	
HDD S.M.A.R.T. Capability	[Disabled]	
Report No FDD For WIN95	[No]	
Video BIOS Shadow	[Enabled]	
Small Logo(EPA) Show	[Disabled]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Virus Warning**

  When this function is enabled, the BIOS 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 halt the system and then display an error message.

  Afterwards, if necessary, you can run and anti-virus program to locate and remove the problem before any damage is done. Many disk diagnostic programs will attempt to access the boot sector table, which can cause the above warning message. If you run such a program, we recommend that you first disable the Virus Warning function beforehand.

  Enabled, Disabled (default)

- **CPU L1 & L2 Cache**

  This field configures the CPU internal cache (L1 & L2 cache)

  Enabled (default), Disabled

- **CPU L2 Cache ECC Checking**

  This field specifies whether the CPU L2 cache supports ECC or not.

  Enabled (default), Disabled

- **Quick Power On Self Test**

  This field allows the system to skip certain tests while booting.

  This will decrease the time needed to boot the system

  Enabled (default), Disabled.

- **First / Secondary / Third / Other boot Device**

  The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

  USB Floppy, LS120, ZIP, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, LAN.

- **Swap Floppy Drive**

  When enabled, floppy drives A and B will be exchanged without the user physically changing the connection on the cable.

  Enabled, Disabled (default)

- **Boot Up Floppy Seek**

  Seeks disk drives during boot up. Disabling speeds boot up.

  Enabled, Disabled (default)

- **Boot Up NumLock Status**

  This field determines the configuration of the numeric keypad after system boot up. If On, the keypad uses numbers keys. If Off, the keypad uses arrow keys.

  On (default), Off

- **Gate A20 Option**

  This field configures how the gate A20 is handled. The gate A20 is a device used to address memory above 1MB. At first, the gate A20 was handled from a pin on the keyboard. While some keyboards still provide this support, it is more common, and much faster, for modern system chipsets to provide support for gate A20.

Fast (default) : Gate A20 signal supported by core logic.

Normal :Gate A20 signal supported by keyboard controller.

- **Typematic Rate Setting**

This field determines if the typematic rate is to be used. When enabled, the BIOS will report (after a moment) that the key has been depressed repeatedly. When disabled, the BIOS will report only once if a key is held down continuously. This feature is used to accelerate cursor movements using the arrow keys.

Enabled, Disabled (default)

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

When Typematic Rate Setting enabled, this field specifies how many characters will be displayed in one second when a key is held down continuously.

6 (default), 8, 10, 12, 15, 20, 24, 30

- **Typematic Delay (Msec)**

When enabled, Typematic delay allows you to select the time delay between when the key is first pressed and when the acceleration begins.

250msec (default), 500msec, 750msec, 1000msec

- **Security Option**

This field configures how the system security is handled. It works conjunction with SETTING SUPERVISOR / USER PASSWORD page to control the security level of the system.

Setup (default) : System needs a password to enter BIOS setup program.

System : System needs a password to boot.

- **APIC Mode**

This field configures APIC Mode is Enabled or Disabled.

Enabled (default), Disabled.

- **MPS Version Control For OS**

1.4 (default), 1.1

- **OS Select for DRAM > 64MB**

When enabled, this field allows you to access the memory that is over 64MB under OS/2

OS2, Non-OS2 (default)

- **HDD S.M.A.R.T Capability**

Disabled (default), Enabled.

- **Report No FDD For WIN95**

  No (default), Yes.

- **Video BIOS Shadow**

  Enabled (default) : Map the VGA BIOS to system RAM.

  Disabled : Don't map the VGA BIOS to system RAM.

- **Small Logo(EPA) Show**

  Enabled : if you want to show your logo, please enabled it.

  Disabled (default) : When this item disabled, logo(EPA) will not show on screen.

4.6 Advanced Chipset Features

This setup page is used to specify advanced features available through the chipset. The default setting have been chosen carefully for most operating conditions. DO NOT change the value of any field in this setup page without full understanding.

Phoenix – AwardBIOS CMOS Setup Utility Advanced Chipset Features		
►Advanced DRAM Control 1	[Press Enter]	Item Help
Prefetch Caching	[Disabled]	Menu Level ►
System BIOS Cacheable	[Enabled]	
Video RAM Cacheable	[Enabled]	
Memory Hole at 15M-16M	[Disabled]	
AGP Aperture Size	[64M]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Advanced DRAM Control 1**

  System Performance – Fast Mode (default), Safe Mode, Normal Mode, Turbo Mode, Ultra Mode.

  CAS Latency Setting – 2.5T (default), 2T, 3T.

  DRAM Addr/Cmd Rate – AUTO (default), 1T, 2T.

- **Prefetch Caching**

  Disabled (default), Enabled.

- **System BIOS Cacheable**

  Enabled (default), Disabled

- **Video RAM Cacheable**

  Enabled (default), Disabled

- **Memory Hole at 15M-16M**

  Disabled (default), Enabled

- **AGP Aperture Size**

  64M (default), 32M, 16M, 8M, 4M, 128M, 256M

4.7 Integrated Peripherals

Phoenix – AwardBIOS CMOS Setup Utility Integrated Peripherals		
►SiS OnChip IDE Device	[Press Enter]	Item Help
►SiS OnChip PCI Device	[Press Enter]	Menu Level ►
►Onboard SuperIO Device	[Press Enter]	
IDE HDD Block Mode	[Enabled]	
Init Display First	[PCI Slot]	
AGP Auto Calibration	[Enabled]	
System Share Memory Size	[32 MB]	
SiS301 Display Type	[H/W Default]	
LCD & TV Select	[Off]	
Display From Cmos	[Disabled]	
OSD Support in Bios	[Disabled]	
Display Logo While Post	[Disabled]	
IDECH0 Access Interface	[EDB Bus]	
IDECH1 Access Interface	[EDB Bus]	
USB0 Access Interface	[EDB Bus]	
USB1 Access Interface	[EDB Bus]	
USB2 Access Interface	[EDB Bus]	
USB2.0 Access Interface	[EDB Bus]	
MAC Access Interface	[EDB Bus]	
Audio Access Interface	[EDB Bus]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **SIS OnChip IDE Device**

  Internal PCI / IDE [Both] (default), Disabled, Primary, Secondary.

  IDE Primary Master PIO [Auto] (default), Mode 0,1,2,3,4

  IDE Primary Slave PIO [Auto] (default), Mode 0,1,2,3,4

  IDE Secondary Master PIO [Auto] (default), Mode 0,1,2,3,4

  IDE Secondary Slave PIO [Auto] (default), Mode 0,1,2,3,4

  Primary Master UltraDMA [Auto] (default), Disabled.

  Primary Slave UltraDMA [Auto] (default), Disabled.

  Secondary Master UltraDMA [Auto] (default), Disabled.

  Secondary Slave UltraDMA [Auto] (default), Disabled.

  IDE Burst Mode Enabled (default), Disabled.

■ SIS OnChip PCI Device

SIS USB Controller Enabled (default), Disabled.

USB Ports Number 6 Ports (default), 5 Ports, 4 Ports, 3 Ports.

USB 2.0 Supports Enabled (default), disabled.

USB Keyboard Support Disabled (default), Enabled.

SIS AC97 AUDIO Enabled (default), Disabled.

SIS S/W Modem Disabled (default), Enabled.

SIS 10/100M ETHERNET Disabled (default), Enabled.

X SIS MAC Address Input Press Enter

SIS 1394 Controller Enabled (default), Disabled.

LCD Panel ID Sel 1280x1024 (default), 800x600, 1024x768, 1400x1050, 1600x1200.

■ Onboard SuperIO Device

Onboard FDC Controller Enabled (default), Disabled.

Onboard Serial Port 1 [3F8/IRQ4]

Onboard Serial Port 2 [2F8/IRQ3]

3F8 / IRQ 4	Port address 3F8h, IRQ 4
2F8 / IRQ 3	Port address 2F8h, IRQ 3
3E8 / IRQ 4	Port address 3E8h, IRQ 4
2E8 / IRQ 3	Port address 2E8h, IRQ 3
Auto	BIOS assigns port address and IRQ channel automatically.
Disabled	Disables serial port

UART Mode Select

Normal (default), IrDA, ASKIR.

This field must be configured in order to use the infrared connector, which supports infrared wireless transmitting and receiving of data between devices when using the appropriate application software.

When setting the field to either IrDA or ASKIR, you must select the active level of receiving and transmission signal.

RxD, TxD Active :

Hi, Lo (default) / Hi, Hi / Lo, Hi / Lo, Lo

IR Transmission Delay :

Enabled (default), Disabled.

UR2 Duplex Mode :

Half (default), Full.

Use IR Pins :

IR-Rx2Tx2 (default), RxD2, TxD2

Onboard Parallel Port

This field configures the onboard parallel port. There are several port addresses and IRQ channels to select from.

378 / IRQ 7 (default)	Port address 378h, IRQ 7
278 / IRQ 5	Port address 278h, IRQ 5
3BC / IRQ 7	Port address 3BCh, IRQ 7
Disabled	Disables parallel port

Onboard Parallel Mode

This field configures the operating mode of an onboard parallel port. Ensure you know the specification of you parallel port devices before selecting field.

SPP (default) / EPP / ECP / ECP+EPP

EPP Mode Select

When the Parallel Port Mode field is configured as EPP, ECP+EPP mode, the EPP version needs to be specified. Please refer to your peripheral document before selecting field.

EPP 1.7 (default)	Use EPP 1.7 protocol
EPP 1.9	Use EPP 1.9 protocol

ECP Mode Use DMA

When the Parallel Port Mode field is configured as ECP, ECP+EPP mode, it needs a DMA channel for data transfer. This field specifies the DMA channel for ECP parallel port use.

1	Use DMA channel 1
3 (default)	Use DMA channel 3

Game Port Address : Disabled, 201H (default), 209H.

Midi Port Address : 330H (default), 300H, 290H, Disabled.

- **Midi Port IRQ :** 10 (default), 5.

- **IDE HDD Block Mode**

  Enabled (default), Disabled**.**

- **Init Display First**

  PCI Slot (default), AGP

- **AGP Auto Calibration**

  Enabled (default), Disabled**.**

- **System Share Memory Size**

  16 MB, 2MB, 4MB, 8MB, 16MB, 32MB (default), 64MB.

- **SiS301 Display Type**

  H/W Default (default), CRT1 only / CRT1+LCD Scaling /

  CRT1+A-V PAL O TV / CRT1+A-V PAL U TV / CRT1+A-V NTSC O TV / CRT1+A-V NTSC U TV

  CRT1+S-V PAL O TV / CRT1+S-V PAL U TV / CRT1+S-V NTSC O TV / CRT1+S-V NTSC U TV

  CRT1+SCART / CRT1+Hi-TV / CRT1+CRT2

- **LCD & TV Select**

  Off (default), LCD, TV, LCD+TV

- **Display From Cmos**

  Disabled (default), Enabled.

- **OSD Support in BIOS**

  Disabled (default), Enabled.

- **Display Logo While Post**

  Disabled (default), Enabled.

- **IDECH0 / IDECH1 / USB0 / USB 1 / USB 2 / USB2.0 / MAC / Audio Access Interface**

  EDB Bus (default), PCI Bus.

4.8 Power Management Setup

Phoenix – AwardBIOS CMOS Setup Utility Power Management Setup		
ACPI function	[Enabled]	Item Help
ACPI Suspend Type	[S1(POS)]	Menu Level ►
Power Management	[User Define]	
Suspend Mode	[Disabled]	
Video off Option	[Susp,Stby -> Off]	
Video off Method	[DPMS Supported]	
Switch Function	[Break/Wake]	
MODEM Use IRQ	[AUTO]	
Hot Key Function As	[Power Off]	
HDD Off After	[Disabled]	
Power Button Override	[Instant Off]	
►PM Wake Up Events	[Press Enter]	
Delay Prior to Thermal	[None]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Each power-saving mode has a respective timer. The value of the timer can be assigned or reloaded and it will count down to zero. When the timer equals to zero, the system will be forced into the related suspend or power-saving mode. If any predefined signal or event is detected during the timer counting period, the timer restarts automatically.

- **ACPI function :** Enabled (default), Disabled

- **ACPI Suspend Type**

  There are several ACPI modes used to save computer's energy.

S1 (POS) (default)	This is the Power-On-State, the CPU clock runs at slower speed, the system operates at slower speed.
S3 (STR)	This is the Suspend-To-Ram State, all system data will be saved in systems memory and all devices except the memory will shut off **(Please checking your VGA card, can support the S3 mode)**
S1 & S3	

- **Power Management**

  User Define (default), Min Saving (1 Hour), Max Saving (1 Min).

  User Define : Disabled, 1/2/4/8/12/20/30/40 Min, 1 Hour.

- **Video Off Option :** Susp,Stby -> Off (default),Suspend -> Off, All Modes -> Off, Always On,

- **Video Off Method**

V/H SYNC+Blank	Turn off the vertical and horizontal synchronization ports and write blanks to the video buffer
Blank Screen	Writes blanks to the video buffer only.
DPMS Supported (default)	Initial display power management signaling with DPMS

- **Switch Function :**

Break/Wake (default), Disabled.

- **MODEM Use IRQ**

This determines the IRQ in which the MODEM can use.

Auto (default), 3, 4, 5, 7, 9, 10, 11.

- **Hot Key Function As**

Power Off (default), Suspend, Disable

- **HDD Off After**

Disable (default), 1 ~ 15 Min.

- **Power Button Override**

This field specifies the function of power button

Instant-Off (default)	When power button pressed, the system turns off immediately
Delay 4 Sec	After the power button has been pressed and held for four seconds, the system turns off

- **PM Wake Up Events :** [Press Enter]

IRQ [3-7, 9-15], NMI : Enabled (default), Disabled.

IRQ 8 Break Suspend : Disabled (default), Enabled.

RING Power Up Control : Enabled (default), Disabled.

MACPME Power Up Control : Enabled (default), Disabled.

PCIPME Power Up Control : Enabled (default), Disabled.

PS2KB Wakeup from S3/S4/S5 : [Password] Power ON Password : [Enter] (Enter your password)

PS2MS Wakeup from S3/S4/S5 : Disabled (default), Click, Move & Click.

Power Up by Alarm : Disabled (default), Enabled

Month Alarm NA (1 ~12)

Date (of Month)	1 ~ 31
Time (hh:mm:ss)	0 : 0 : 0

*** Reload Global Timer Events ***

Primary IDE	[Disabled]
Secondary IDE	[Disabled]
FDD,COM,LPT Port	[Disabled]
PCI PIRQ[A-D]	[Disabled]

- **Delay Prior to Thermal**

  None (default), 1/2/4/8/16/32/64 Min

4.9 PnP / PCI Configurations

Phoenix – AwardBIOS CMOS Setup Utility PnP / PCI Configurations		
Reset Configuration Data	[Disabled]	Item Help
Resources Controlled By	[Auto (ESCD)]	Menu Level ►
IRQ Resources	[Press Enter]	Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
PCI/VGA Palette Snoop	[Disabled]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Reset Configuration Data**

  Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

  Enabled, Disabled (default)

- **Resources Controlled By**

  The Award Plug and play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 98/95/NT. If you set this field to “manual” choose specific resources by going into each of the sub menu that follows this field.

Manual	Resources controlled by the user.
Auto (ESCD) (default)	Resources controlled by BIOS automatically

- **IRQ Resources :** Press Enter (When Resources Controlled By = Manual)

  IRQ3, 4, 5, 7, 9, 10, 11, 12, 14, 15 PCI Device / Reserved.

- **PCI /VGA Palette Snoop**

  This field controls the ability of a primary PCI graphics controller to share a common palette with an ISA/VESA video or MPEG card.

Enabled	PCI VGA co-works with ISA MPEG card
Disabled (default)	All cases except above

4.10 PC Health Status

This page is monitoring your status of computer. On the screen displays CPU/System temperature, FAN speed, and voltages.

Phoenix – AwardBIOS CMOS Setup Utility PC Health Status		
CPU Warning Temperature	[Disabled]	Item Help
Current System Temp.	39°C/ 102°F	Menu Level ►
Current CPU1 Temp	0°C/ 32°F	
Current CPUFAN1 Speed	0 RPM	
Current CPUFAN2 Speed	0 RPM	
Vcore	1.77V	
+3.3V	3.31V	
+5V	5.13V	
+12V	11.30V	
-12V	-11.54V	
VBAT(V)	3.16V	
5VSB(V)	5.51V	
Shutdown Temperature	[Disabled]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

4.11 Frequency/Voltage Control

Phoenix – AwardBIOS CMOS Setup Utility Frequency/Voltage Control		
CPU Clock Ratio	[10X]	Item Help
Auto Detect DIMM/PCI Clk	[Enabled]	Menu Level ►
Spread Spectrum	[Disabled]	
CPU Host/SDRAM/PCI Clock	[Default]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **CPU Clock Ratio :** 10X (default), Min = 10, Max = 24 (Key in a DEC number)

- **Auto Detect DIMM/PCI Clk :** Enabled (default), Disabled

- **Spread Spectrum :** Disabled (default), Enabled.

- **CPU Host/SDRAM(DDR)/PCI Clock :**

  Default (Auto detecting and setting current CPU & SDRAM & PCI clock),

  100/100/33MHz, 100/133/33MHz, 100/166/33MHz, 133/100/33MHz, 133/133/33MHz

  133/166/33MHz.

Over-clocking is not guaranteed. Users must have substantial knowledge of proper CPU relative to adjusting CPU speeds. Over-clocking should be done only by experienced engineers who conduct tests.

4.12 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to : Pressing “Y” loads the BIOS default values for the most Optimize, maximum-performance system operations.

4.13 Set Password

These setup pages are used for password setting. When a password has been enabled and the Security Option field is set as Setup, you will be required to enter the password every time you try to enter BIOS Setup program. This prevents an unauthorized person from changing any part of your system configuration. Additionally, if the Security Option field is set as Boot, the BIOS will request a password every time your system boot. This would prevent unauthorized use of your computer.

In you wish to use this function, bring the cursor to this field, then press <Enter>. The computer will display the message, “Enter Password”. Type your password and press <Enter>. After the message on firm Password” is displayed, re-type your password. The Supervisor Password function will be in effect after you save an exit setup.

To disable a password, bring the cursor to this field, then press <Enter>. The computer will display the message, “Enter Password”. Press <Enter>. A message will confirm that the password is disabled. Once the password is disabled, the system will boot and you can enter setup program freely.

4.14 Save & Exit Setup

Saves current CMOS value and exit BIOS setup program.

4.15 Exit Without Saving

Abandons all CMOS value changes and exits BIOS setup program.

Chapter 5. Driver Installation

You can find the all drivers for CAIO-40 motherboard in its disc.

1. VGA Driver Installing…

(1) Install Win2K&XP VGA Driver :

Path : [CAIO-40 Driver] – [VGA Driver] – [Win2K&XP] – Setup.exe

(2) Install Win98&ME VGA Driver :

Path : [CAIO-40 Driver] – [VGA Driver] – [Win98&ME] – Setup.exe

2. Audio Driver Installing…

(1) Install Win98/ME/2000/XP Audio Driver :

Path : [CAIO-40 Driver] – [Audio Driver] – Setup.exe

3. Lan Driver Installing…

(1) Install Lan Driver :

Path : [CAIO-40 Driver] – [Lan Driver] – readme.txt

4. USB 2.0 Driver Installing…

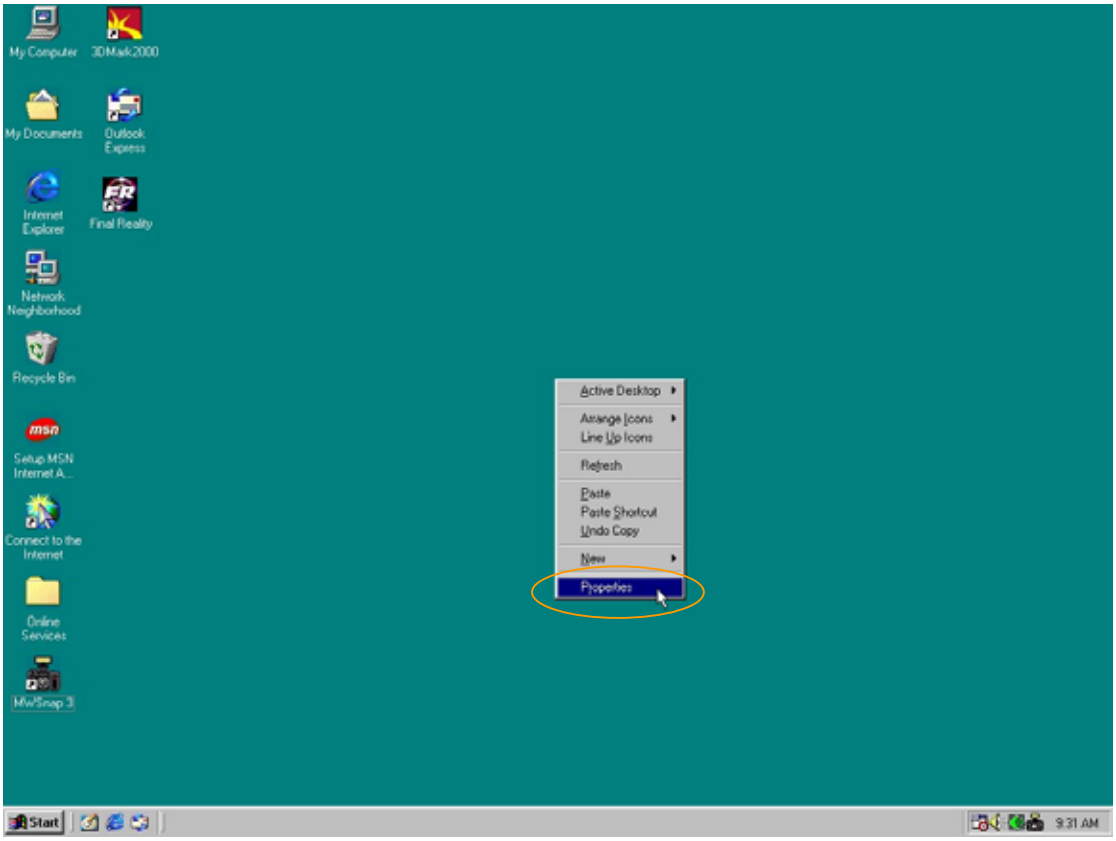
(1) Install USB 2.0 Driver :

Path : [CAIO-40 Driver] – [Usb20 Driver] – USB20.exe

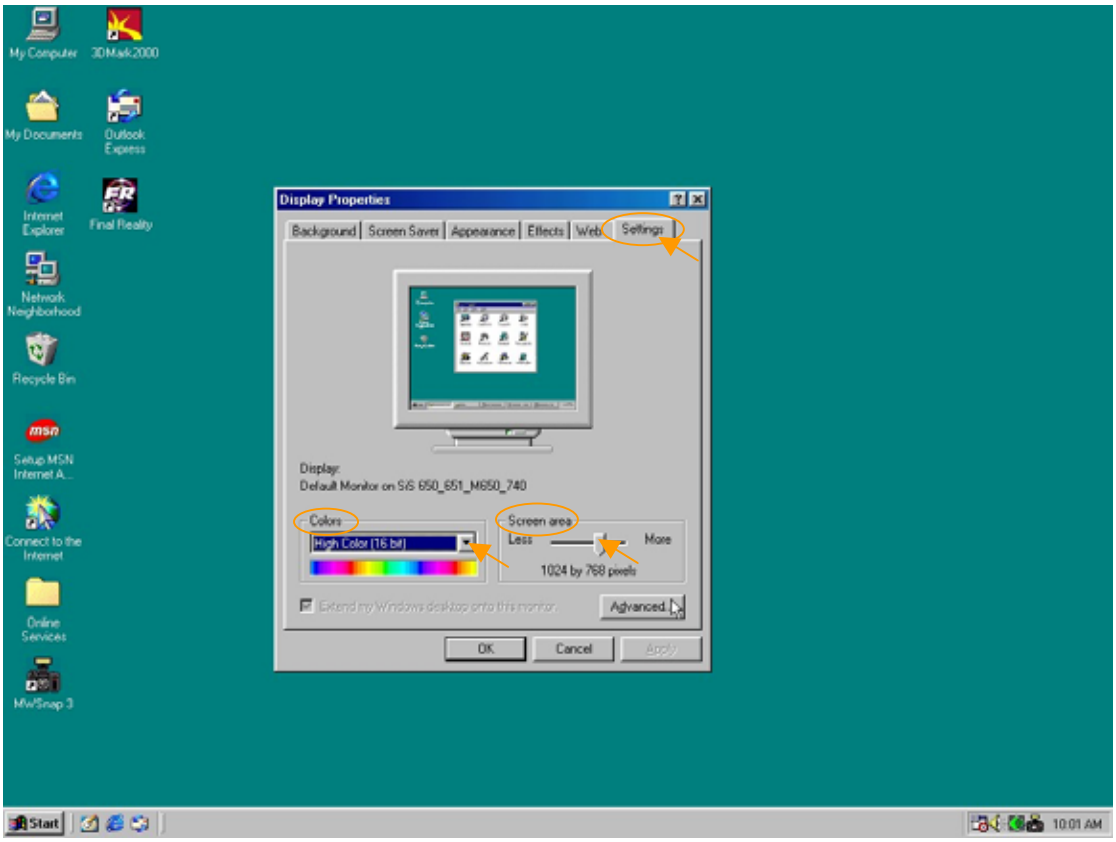
Chapter 6. VGA Setting…

Open “Display Properties” item :

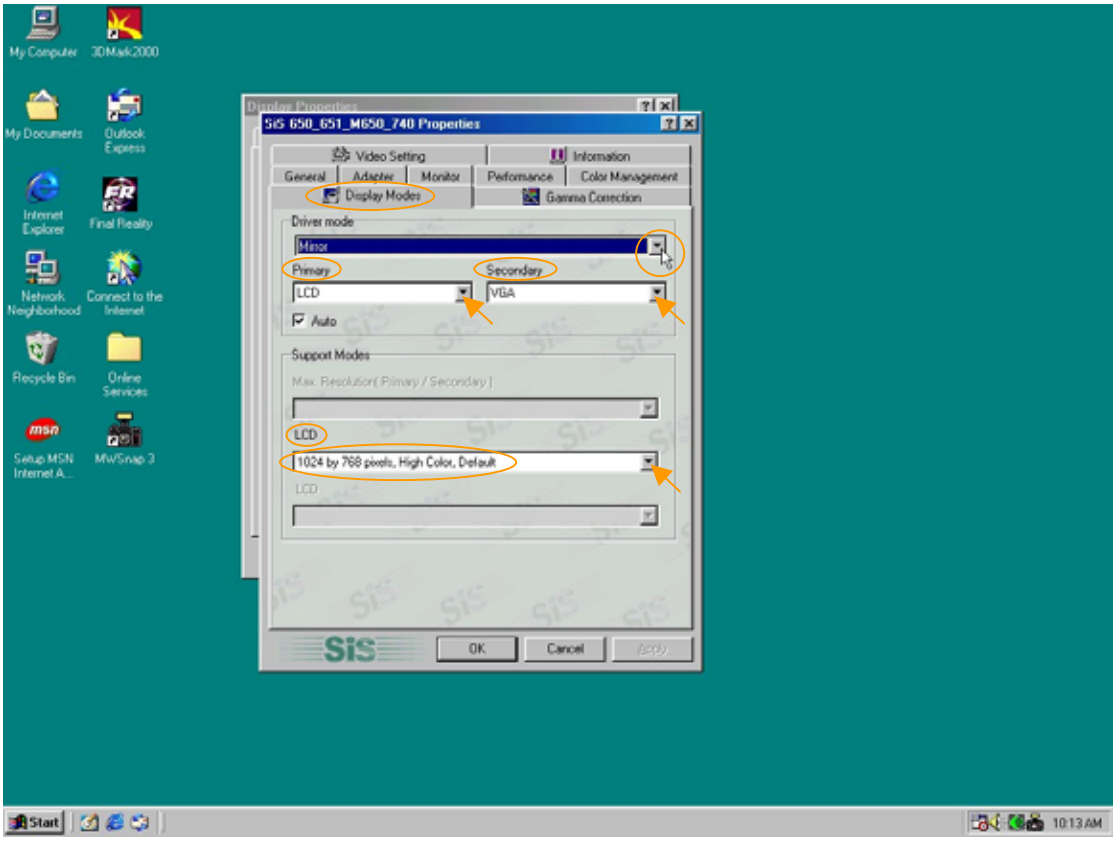
1. One click (mouse) right button and move arrow cursor to “Properties”, click lift button.



2. In “Display Properties – Settings “, you can change “ Color (quality) “ and “Screen (resolutions) area ” ; move arrow cursor to “Advanced…” and click lift button.

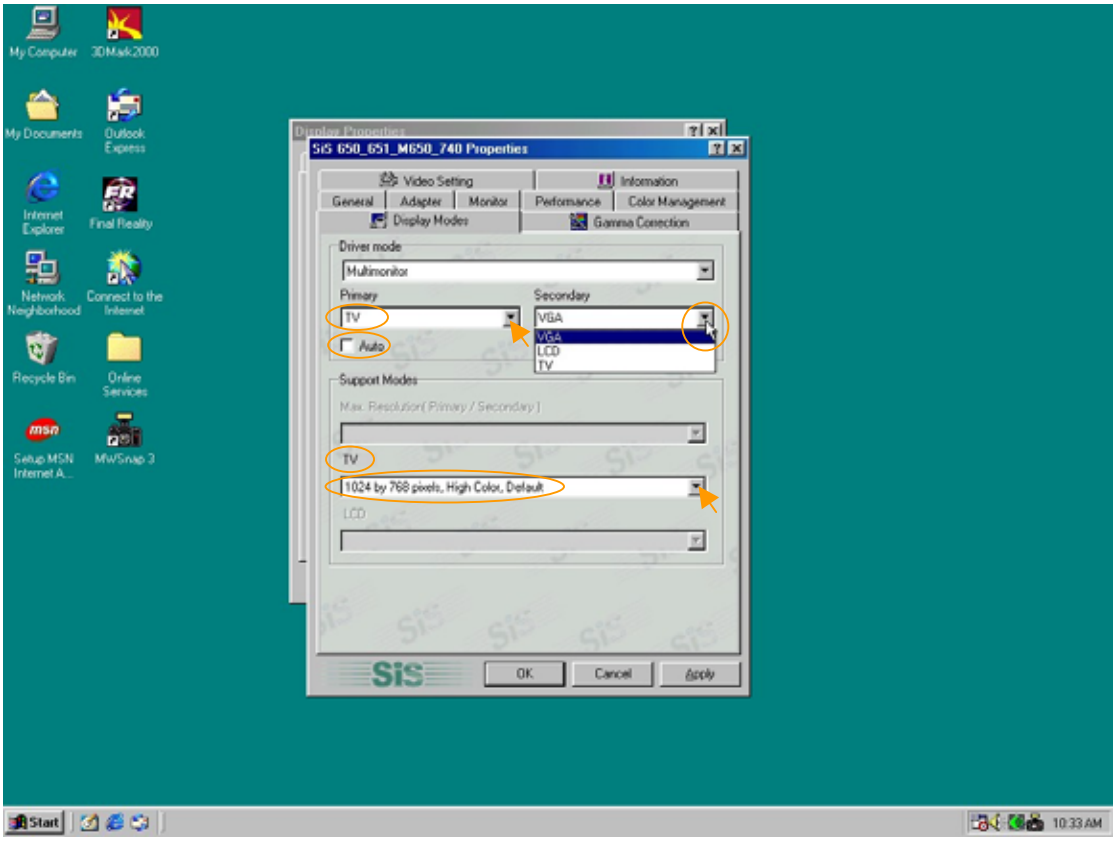


3. After clicked “Advanced”, into “SiS650_651_M650_740 Properties – Display Modes”.
   When “Display mode” is “Mirror”, there are two items can be select are “Primary” and “Secondary”. You can change “Primary” this item to “LCD” or “VGA” and “Secondary” will auto change to another.
   When “Primary” is LCD, that you can change the resolutions of LCD.

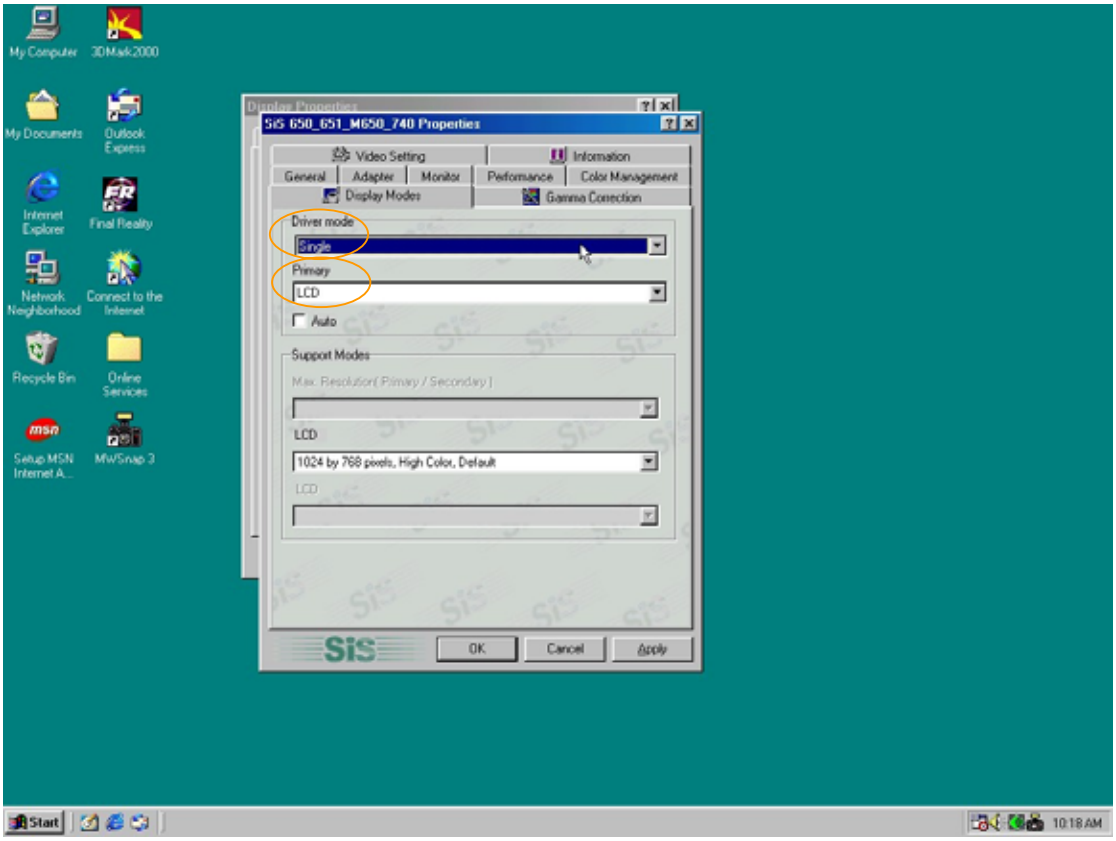


4. When “Auto” was unselected, that you can change “Primary” to LCD / VGA / **TV**, the “Secondary” will auto change to other item.

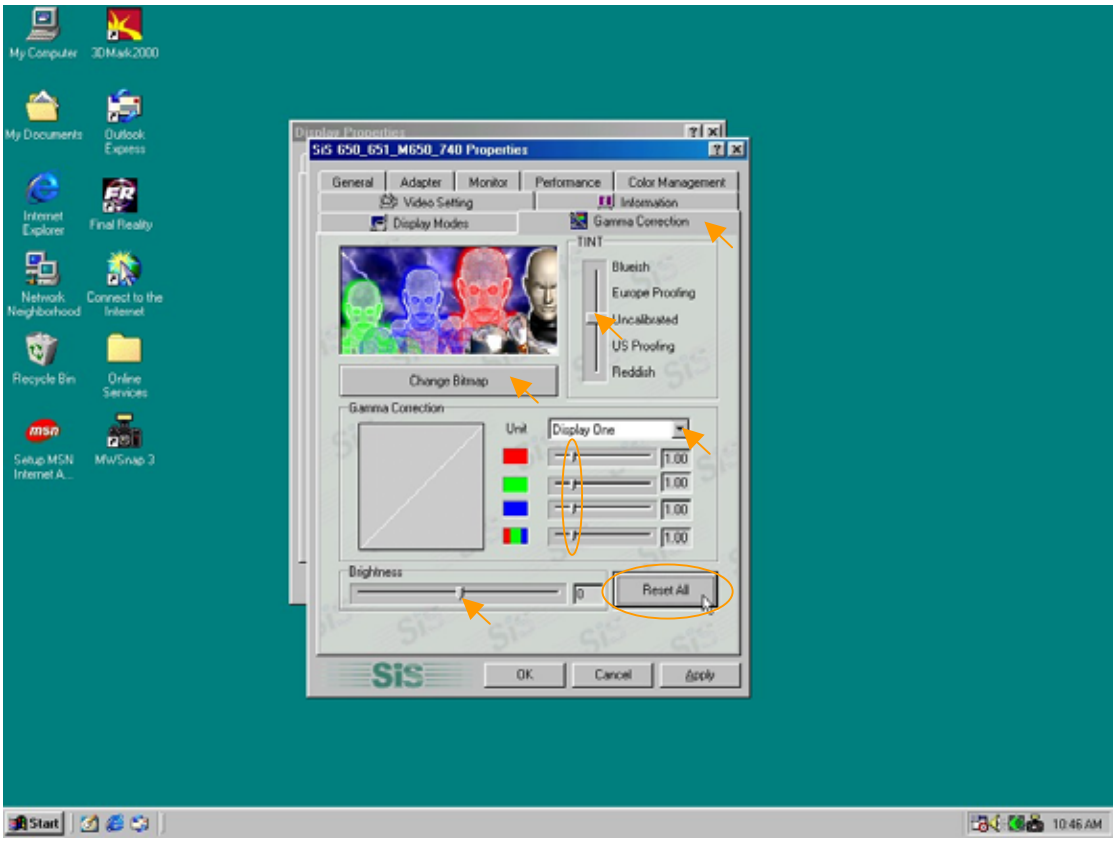
   When “Primary” is “**TV**”, that you can change the resolutions of TV.



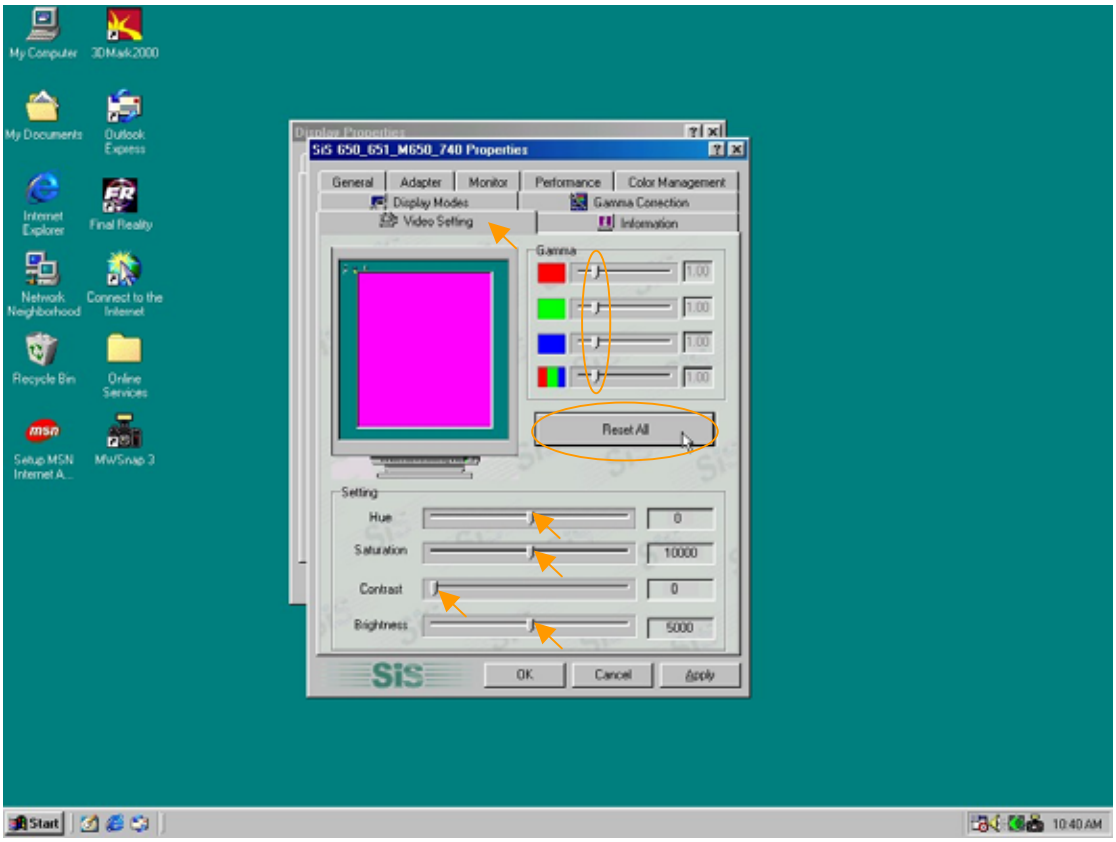
5. Driver mode have three items : “Mirror”, “Single”, “Multimonitor” in Windows 98SE/XP
   (Windows 2000 only two items : “Mirror” and “Single”)
   When you change “Display mode” to “Single”, that only “Primary” item would be show.



6. Gamma Correction :



7. Video Setting :



8. Information :