NP-8007A User Manual

Warning!_____

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Packing List

Accessories (as ticked) included in this package are:
□ AC power cable
□ Driver & manual CD disc
□ Other._____(please specify)

Safety Precautions

Follow the messages below to avoid your systems from damage:

☐ Avoid your system from static electricity on all occasions.

☐ Prevent electric shock. Don't touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.

☐ Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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Chapter 1   Getting Started

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Chapter 5   Touch Screen Installation

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Chapter 1_____Getting Started

1.1 Specifications

Model No. Specs	NP-8007A
System	
Processor	Intel Atom N270 1.6 GHz built-in, FSB 533 MHz
System Chipset	Intel 945GSE + ICH7M
System Memory	1 x 200-pin SO-DIMM socket, support 533 MHz up to 2 GB DDR2 SDRAM
Storage	1 x 2.5" SATA HDD 1 x CF Slot (internal)
External I/O Port	4 x USB 2.0 ports 1 x RJ-45 ports(GbE) 1 x DB-9 RS-232 COM2 1 x DB-9 RS422/RS485 COM1, default RS485 1 x DVI-I output 1 x Audio Line-out and MIC-in 1 x 3 Pin terminal block DC power input
Expansion Slots	None
OS support	Windows CE 6.0, XP Pro, XP Embedded, Windows embedded standard 7
LCD	
Display Type	7" TFT-LCD
Max. Resolution	800X480
Max. Color	262K
Luminance (cd/m2)	250
View Angle	H:140°/ V:110°
Backlight Lifetime	20,000 hrs
Touch Screen	
Type	Analog resistive
Light Transmission	80%
Power Supply	
Power Input	DC 11~32V
Mechanical	
Construction	Aluminum front bezel and steel chassis
IP Rating	Front Panel IP65

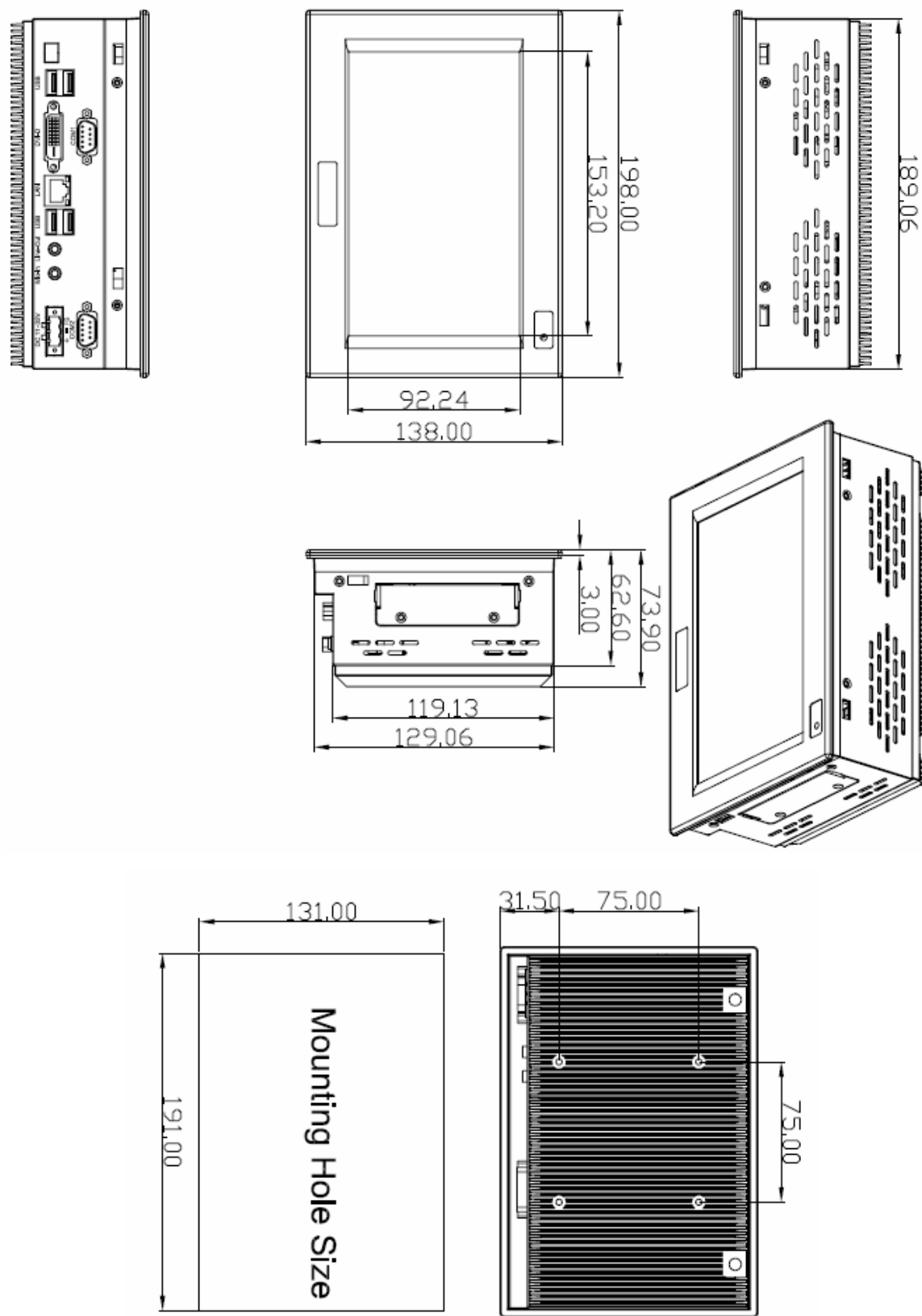| Mounting	Panel/VESA 75x75 Mount
Dimensions (WxHxD)	198x138x73.9 mm
Net Weight	3.6kgs
Environmental	
Operating Temperature	-10~50˚C
Storage Temperature	-20~60 □ C
Storage Humidity	10~90% @40 □ C non-condensing
Certificate	CE/FCC Class A

1.2 Dimensions

Figure 1.1: Dimensions of the NP-8007A

1.3 Brief Description of the NP-8007A

The NP-8007A is a power-optimized and delivers robust performance-per-watt for embedded HMI. The powered by an Atom N270 1.6 GHz processor. It comes with a compact flash slot, DDR2 memory,1 Ethernet, 2 COM ports, DC input, and 4 USB ports. The unit supports Windows CE6.0, XP Pro, XP Embedded and Windows Embedded Standard 7. The fanless touch panel computer is ideal for use as Web Browser, Terminal and HMI at all levels of automation control.

Figure 1.2: Front View of NP-8007A

Figure 1.3: Rear View of NP-8007A

1.4 Installation of HDD

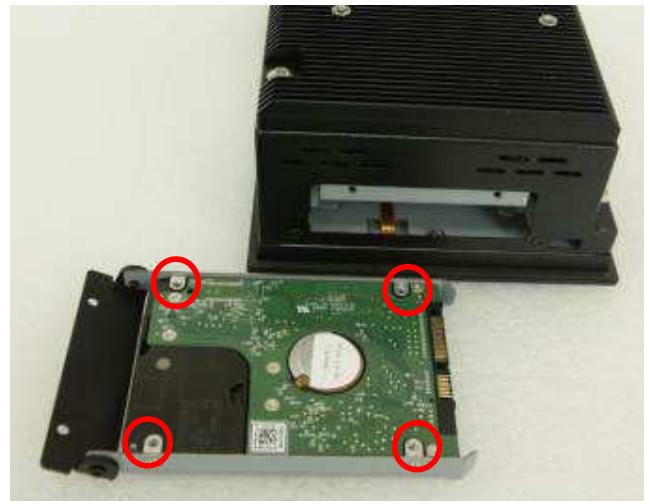|	
Step 1 There are 2 screws to deal with when Installing of HDD as shown in the picture NP-8007A	
Step 2 Loosen screw and draw the HDD bracket out as shown in the picture.as shown in the picture NP-8007A	
Step 3 Tighten four screws as shown in the picture.	

Step 4 Push into the HDD bracket as shown in the picture NP-8007A	
Step 5 Tighten the 2 screws as shown in the picture. That's how it should look after it has been installed.	

Chapter 2_____Hardware Installation
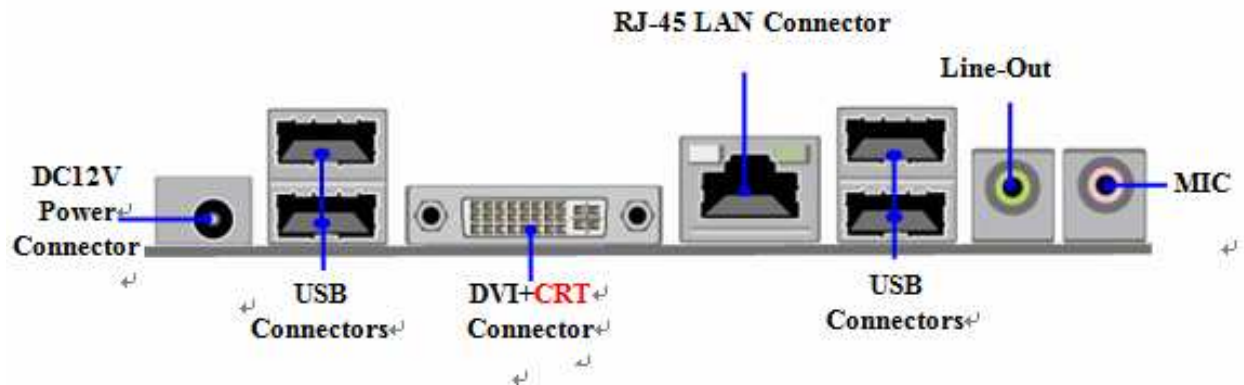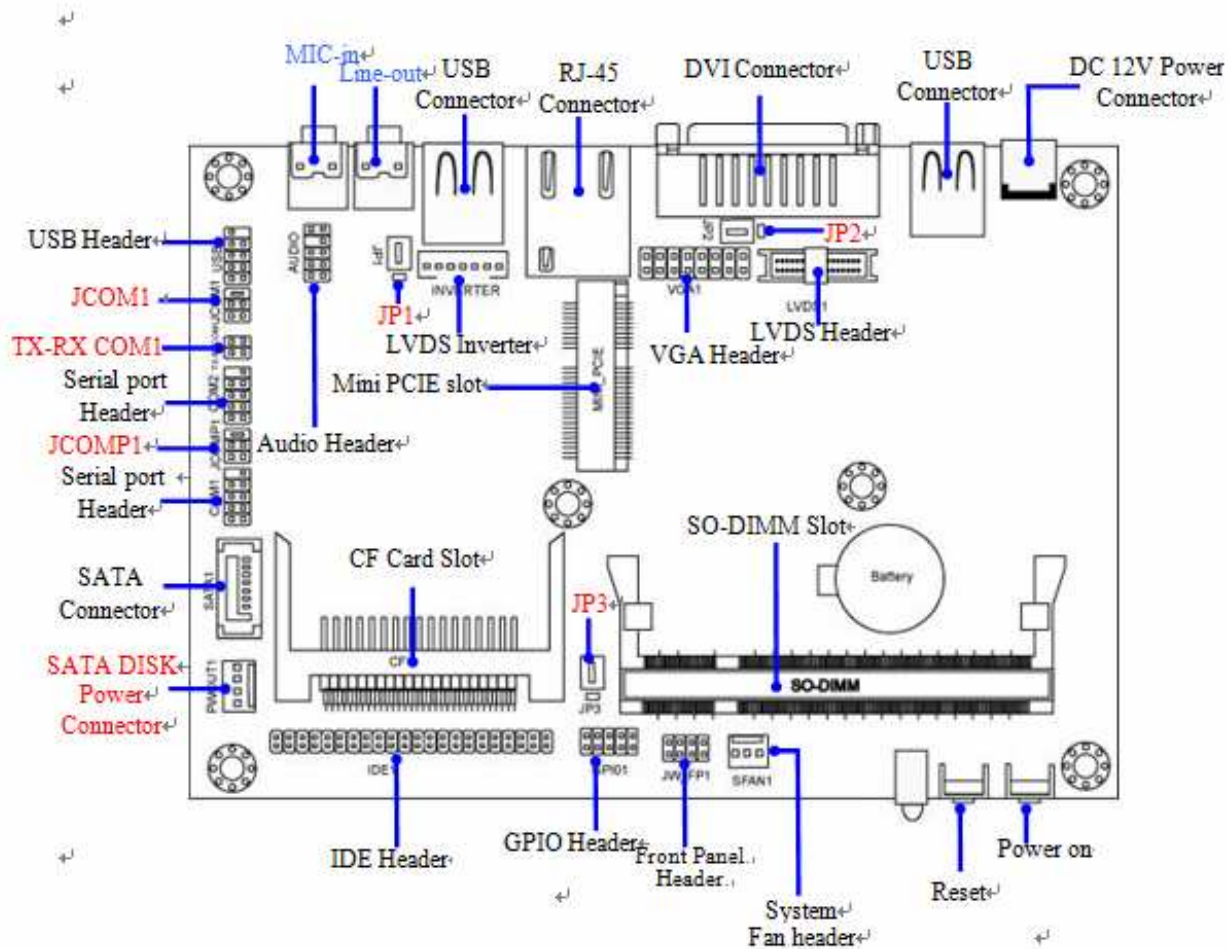
2.1 Mainboard Specifications

Figure 2.1: Layout Diagram
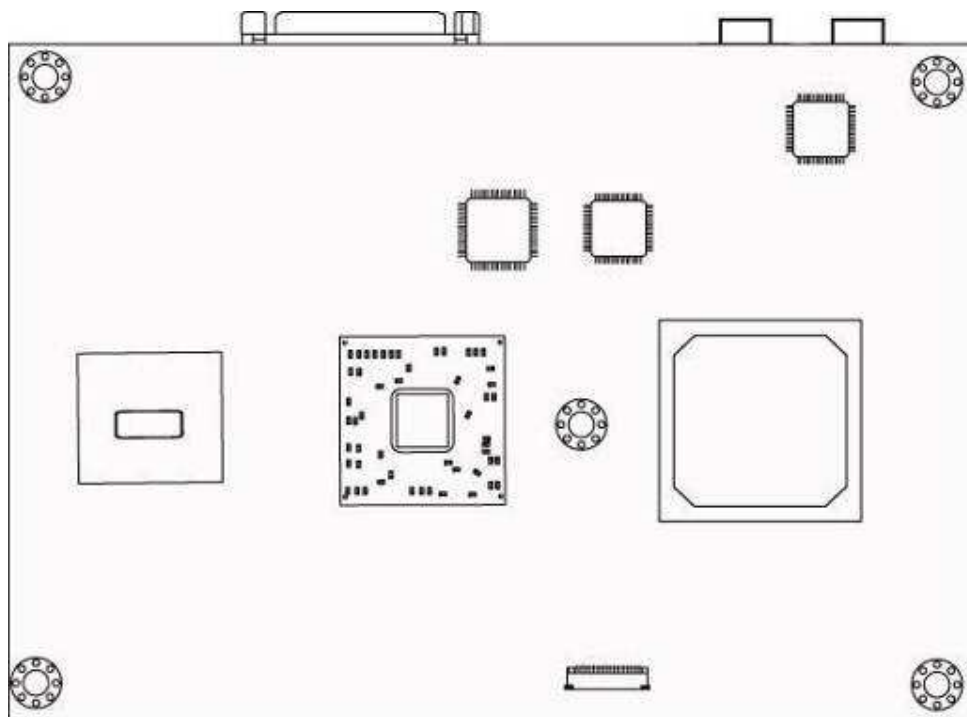

Figure 2.2: Jumpers and Connectors Location-TOP

Figure 2.3: Jumpers and Connectors Location- Bottom

Spec	Description
Design	● **3.5"SBC 6 layers; PCB size: 14.8x 10.2 cm**
Chipset	● **Intel 945GSE+ICH7M Chipset**
Embedded CPU	● **ATOM CPU**
Memory Socket	● **200-pin DDRII SO-DIMM slot x1** ● **Support DDRII 400/533MHz system Modules DDRII memory** ● **Expandable to 2GB.**
Expansion Slots	● **CF card slot x1** ● **Mini-PCI E slot x1**
Integrate IDE	● **One PCI IDE controller that supports PCI Bus Mastering, ATA PIO/DMA and the ULTRA DMA /100/66 functions that deliver the data transfer rate up to 100MB/s.**
LAN	● **Integrated Realtek RTL8111DL PCI-E Gigabit LAN.** ● **Support Fast Ethernet LAN function of providing 10Mb/100Mb/1000Mb Ethernet data transfer rate**
HD Audio	● **ALC662 2-channel HD Audio Codec integrated** ● **Audio driver and utility included**
BIOS	● **Award 8MB DIP Flash ROM**
Multi I/O	● **DVI connector x1** ● **USB 2.0 port x 4 and USB header x1** ● **RJ-45 gigabit LAN connector x1** ● **Audio connector x2 (Line out/MIC connector)**

	● **SATAII x1**
	● **VGA header x1**
	● **Front panel header x1**
	● **RS422/485 header x2**
	● **LVDS connector x1**
	● **GPIO connector x1**
	● **SYSTEM FAN header x1**

Jumper

Jumper	Name	Description
JCOM1	COM1 RS232/422/485 Function Select	6-pin Block
JCOMP1	RS232 Power on Function Select	6-pin Block
JP1	Inverter VCC 12V/5V Select	3-pin Block
JP2	LVDS5V/3.3V Select	3-pin Block
JP3	CF Card Master/Slave Mode Select	3-pin Block

Connectors

Connector	Name	Description
DC12V2	DC Power Connector	DC Jack
USB3/ USB2	USB Port Connectors	4-pin Connectors
DVI1	DVI Port Connector	24-pin Connector
LAN1	RJ-45 LAN Connector	8-pin Connector
HOUT1	Line Out Connector	1-phone Jack
HMIC1	MIC Connector	1-phone Jack
SATA1	Serial ATAII Connector	7-pin Connector
PWOUT1	Power Out Connector	4-pin Connector

Headers

Header	Name	Description
AUDIO1	Front Panel Audio Header	9-pin block
USB1	USB header	9-pin block
COM1,COM2	Serial port headers	9-pin block
TX-RXCOM1	RS422/485 header	4-pin block
JW_FP1 (PWR LED/ HD LED/ /Power Button /Reset)	Front Panel Header (PWR LED/ HD LED/ /Power Button /Reset)	8-pin Block
SFAN1	FAN Speed Headers	3-pin Block
IDE1	IDE Hard Disk Drive header	44-pin block
GPIO	GPIO header	10-pin block
LVDS1	LVDS Connector	30-pin Block
INVERTER1	LVDS Inverter Connector	7-pin Block
VGA1	VGA Port Header	15-pin Connectors

2.2 Hardware Installation
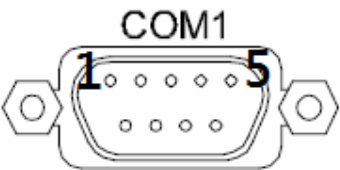
2.2.1 Jumper Setting

(1) JCOM1: COM1 Port RS232/422/485 function select

JCOM1

1-2 closed: RS232   3-4 closed : RS485   5-6 closed : RS422
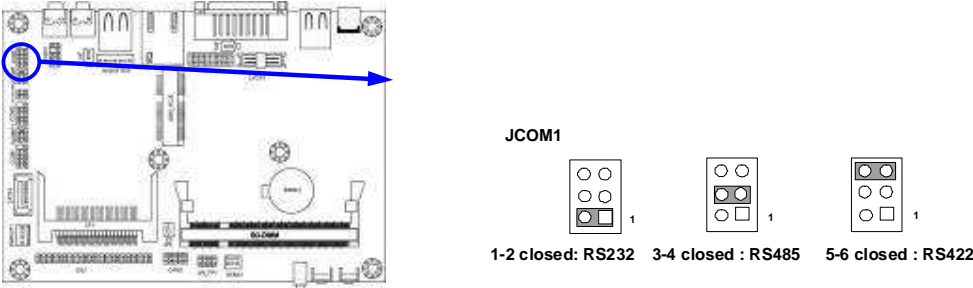
(2) JCOMP1: COM1 Pin 9 function select

JCOMP1

1-2 closed: RS232   3-4 closed : +12V   5-6 closed : +5V
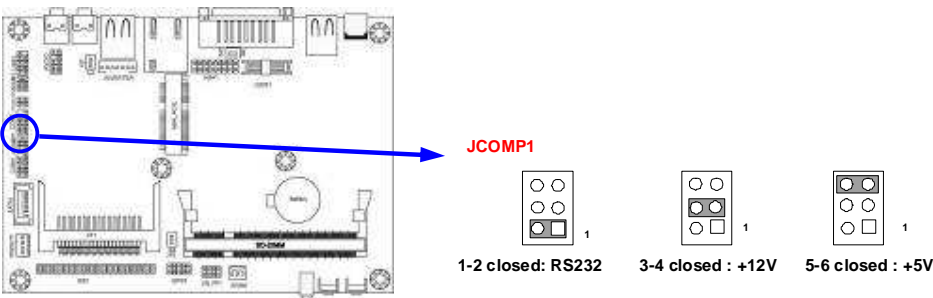
**COM1 Pin Define

Pin	
1	RX+
2	RX-
3	TX-
4	TX+

(3) JP1: Inverter VCC 5V/12Vselect (3-pin)

JP1   **1-2 closed**
Inverter 12V selected

JP1   **2-3 closed**
Inverter 5V select
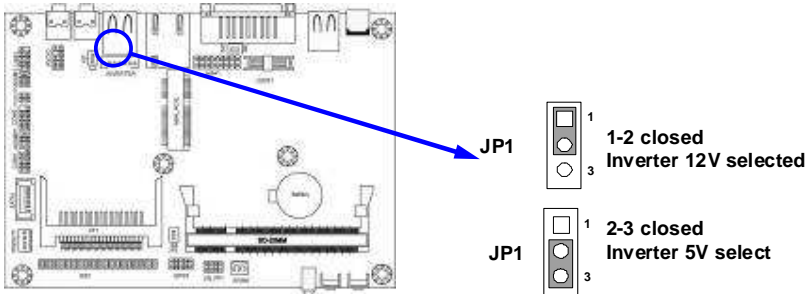
(4) JP2: LVDS 5V/3.3V Function setting (3-pin)

JP2

1-2 closed: LVDS VCC 5V

JP2

2-3 closed : LVDS VCC 3.3V
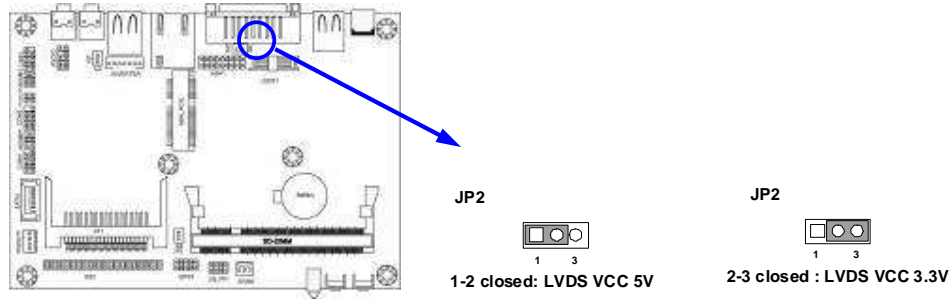
(5) JP3: CF card Master /Slave Mode setting (3-pin)

JP3

1-2 closed: CF Card Slave

JP3

2-3 closed :CF Card Master
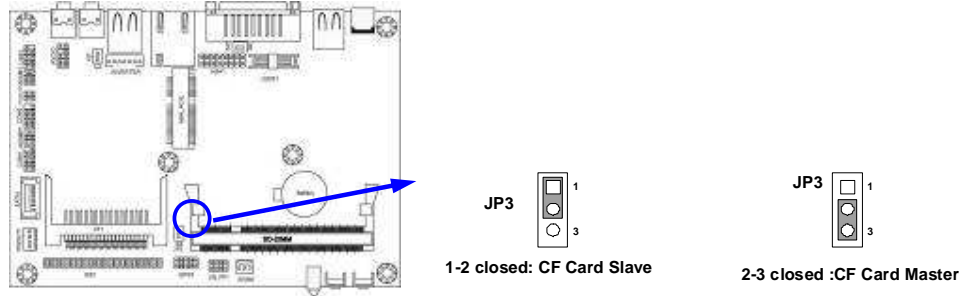
2.3 Connectors and Headers

2.3.1 Connectors

(1) Audio Connector: (Line-Out/ MIC-In)
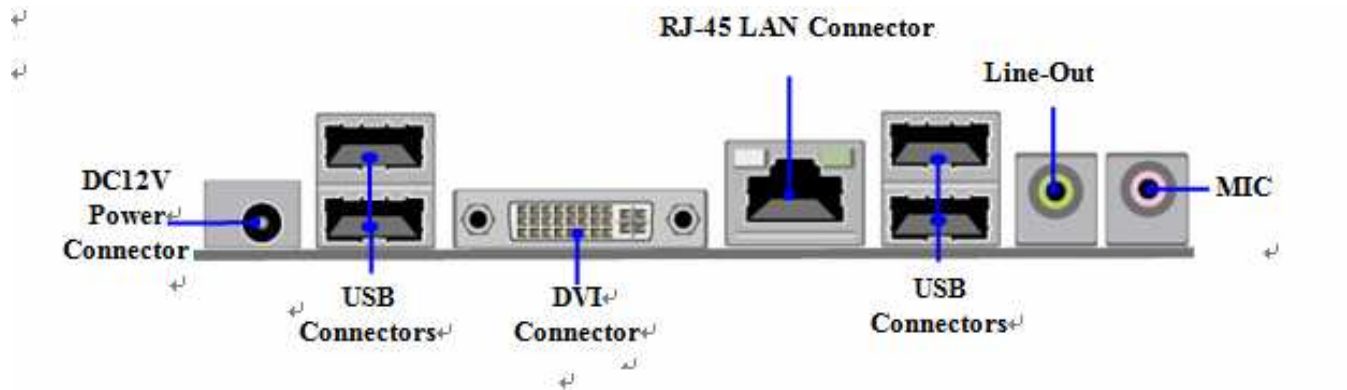
(2) Serial-ATA Port connector: SATA1

Serial-ATA Connectors
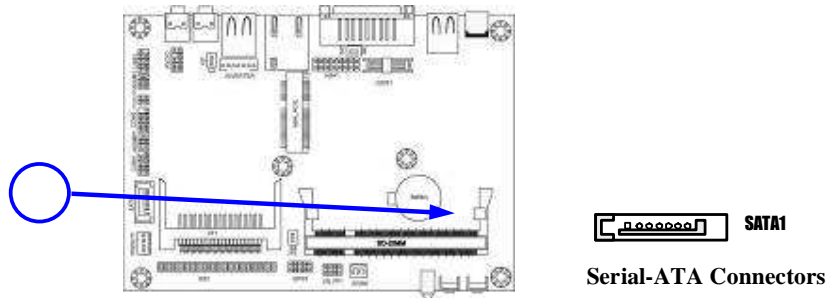
2.3.2 Headers

(1)   Front panel audio (9-pin): AUDIO1

Line-Out, MIC Headers
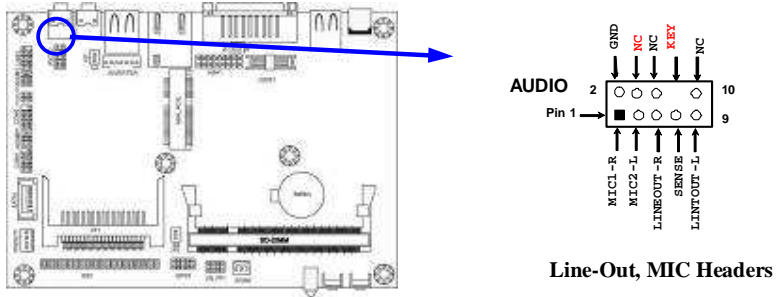
(2)   COM Connectors (9-pin): COM1/COM2

Serial Port 9-pin Block
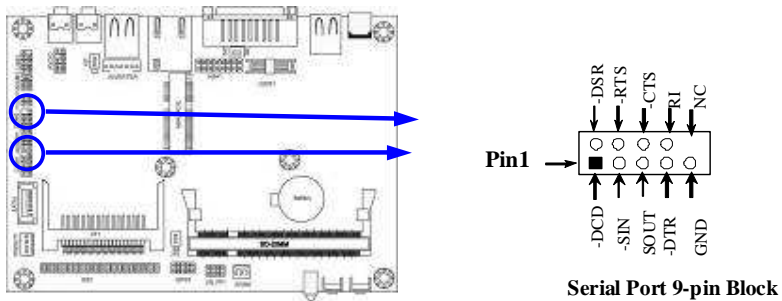
(3)TX-RXCOM Header: TX-RXCOM1
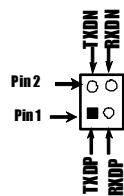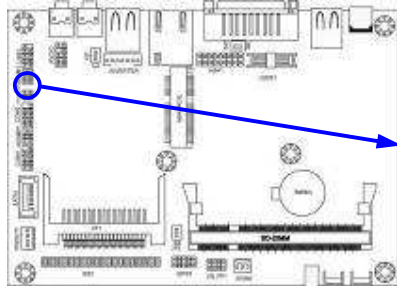
TX-RXCOM1 Header

(4) JW-FP1   8-pin
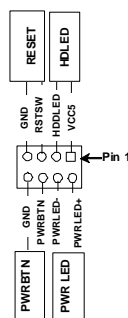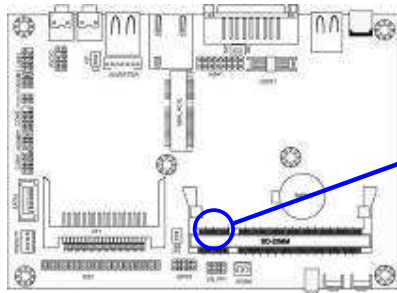
System Case Connections

(5)   SFAN1 Headers (3-pin): SYSFAN1
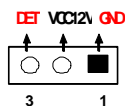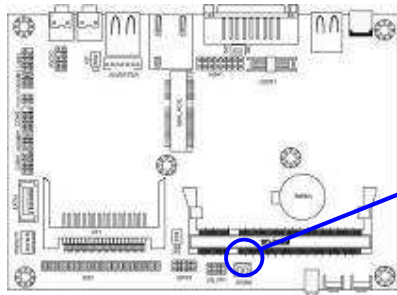
Fan Header

(6) GPIO1 Connectors (10-pin): GPIO
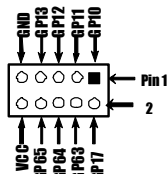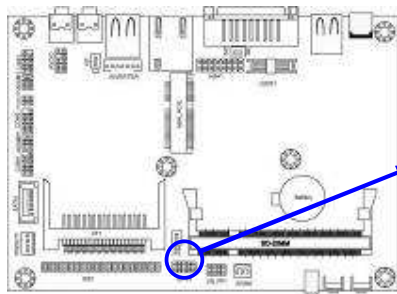
GPIO Connector

(7)LVDS Headers: LVDS1
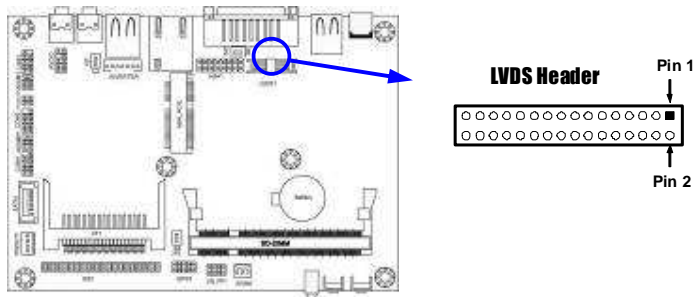
Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	**NC**	Pin 2	**NC**
Pin 3	**LVDS_CLKBN**	Pin 4	**LVDS_CLKBP**
Pin 5	**LVDSB_DATAN2**	Pin 6	**LVDSB_DATAP2**
Pin 7	**LVDSB_DATAN1**	Pin 8	**LVDSB_DATAP1**
Pin 9	**LVDSB_DATAN0**	Pin 10	**LVDSB_DATAP0**
Pin 11	**LVDS_DDC_DATA**	Pin 12	**LVDS_DDC_CLK**
Pin 13	**GND**	Pin 14	**GND**
in 15	**GND**	Pin 16	**GND**
Pin 17	**NC**	Pin 18	**NC**
Pin 19	**LVDS_CLKAP**	Pin 20	LVDS_CLKAN
Pin 21	**LVDSA_DATAP2**	Pin 22	LVDSA_DATAN2
Pin 23	**LVDSA_DATAP1**	Pin 24	LVDSA_DATAN1
Pin 25	**LVDSA_DATAP0**	Pin 26	LVDSA_DATAN0
Pin 27	**PVDD**	Pin 28	PVDD
Pin 29	**PVDD**	Pin 30	PVDD

(8) Pin-headers of LVDS Inverter: INVERTER1
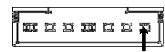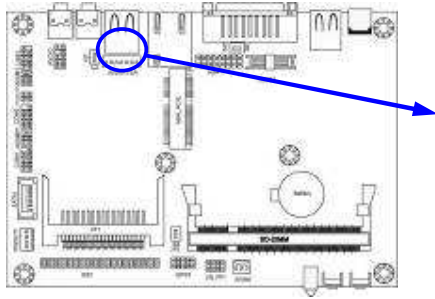
Pin 1

INVERTER

Pin NO.	Pin Define
Pin 1	**VCC**
Pin 2	**VCC**
Pin 3	**GND**
Pin 4	**GND**
Pin 5	**Backlight**
Pin 6	**GND**
Pin 7	**Bright**

Chapter 3   BIOS Setup

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization.   Only when these tasks are completed done it gives up control of the computer to operating system (OS).   Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

In the BIOS Setup main menu of Figure 3-1, you can see several options.   We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press <Esc> to quit the BIOS Setup.

- Press ↑↓←→ (up, down, left, right) to choose, in the main menu, the option you want to confirm or to modify.

- Press <F10> when you have completed the setup of BIOS parameters to save these parameters and to exit the BIOS Setup menu.

- Press Page Up/Page Down or +/− keys when you want to modify the BIOS parameters for the active option.

3.1   Entering Setup

Power on the computer and by pressing <Del> immediately allows you to enter Setup.

If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys.   If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to

Press <Del> to enter Setup

3.2   Getting Help

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item.   To exit the Help Window, press <Esc>.

3.3   The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 3-1) will appear on the screen.   The Main Menu allows you to select from fourteen setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

Figure 3-1

Standard CMOS Features

Use this Menu for basic system configurations.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configuration

Use this menu to specify your settings for PnP and PCI configurations.

PC Health Status

This entry shows your PC health status.

Miscellaneous Control

Use this menu to specify your settings for Miscellaneous Control.

Load Optimized Defaults

Use this menu to load the BIOS default values these are setting for optimal performances system operations for performance use.

Load Standard Defaults

Use this menu to load the BIOS default values for the minimal/stable performance system operation

Set Supervisor Password

Use this menu to set supervisor password.

Set User Password

Use this menu to set user password.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3.4   Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories.   Each category includes no, one or more than one setup items.   Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.
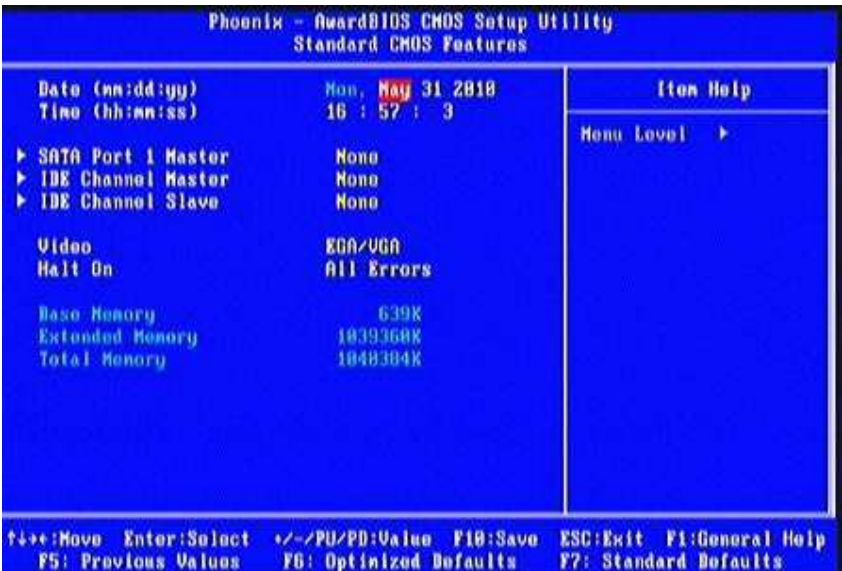
Date

The date format is <day><month><date><year>.

Day   **Day of the week is from Sun to Sat, determined by BIOS. Read-only.**

Month   **The month is from Jan. through Dec.**

Date   **The date from 1 to 31 can be keyed by numeric function keys.**

Year   **The year depends on the year of the BIOS.**

Time

The time format is <hour><minute><second>.

SATA Port1 Master/IDE Channel Master/Slave

Press Enter to enter the subitem and then press PgUp/<+> or PgDn/<−> to select None, Auto type.   Note that the specifications of your drive must match with the drive table. If the controller of HDD interface is SCSI, the selection shall be "None".

If the controller of HDD interface is CD-ROM, the selection shall be "None"

Access Mode **The settings are CHS, LBA, Large and Auto.**

Capacity   **The capacity of the hard disk driver.**

Cylinder   **number of cylinders**

Head   **number of heads**

Precomp   **write precomp**

Landing Zone **landing zone**

Sector   **number of sectors**

Video

The optional settings are: EGA/VGA; CGA40; CGA80; Mono.

Halt On

Three optional settings are: All Errors; No Errors; All, But Keyboard.

3.5 Advanced BIOS Features

Virus Warning

The selection Allow 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.

Disabled **(default) No warning message to appear when anything attempts to access the boot sector or**

hard disk partition table.

Enabled   **Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.**

Hard Disk Boot Priority

The selection is for you to choose the hard disk drives priorities to boot from.

Quick Power On Self-Test

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

Enabled **(default)   Enable quick POST**

Disabled   **Normal POST**

First/Second/Third Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
The optional settings are   Removable; Hard Disk; CDROM; Network;Disabled..

Boot Up NumLock Status

The default value is On.

On **(default)   Keypad is numeric keys.**

Off   **Keypad is arrow keys.**

Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.   The settings are: Enabled/Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a keystroke when you hold the key down.   The settings are: 6, 8, 10, 12, 15, 20, 24, and 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before beginning to repeat the keystroke.   The settings are 250, 500, 750, and 1000.

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 **(default)   The system will boot, but access to Setup will be denied if the correct password is not entered prompt.**

MPS Version Control for OS   1.4

This option is only valid for multiprocessor motherboards as it specifies the version of the Multiprocessor Specification (MPS) that the motherboard will use.
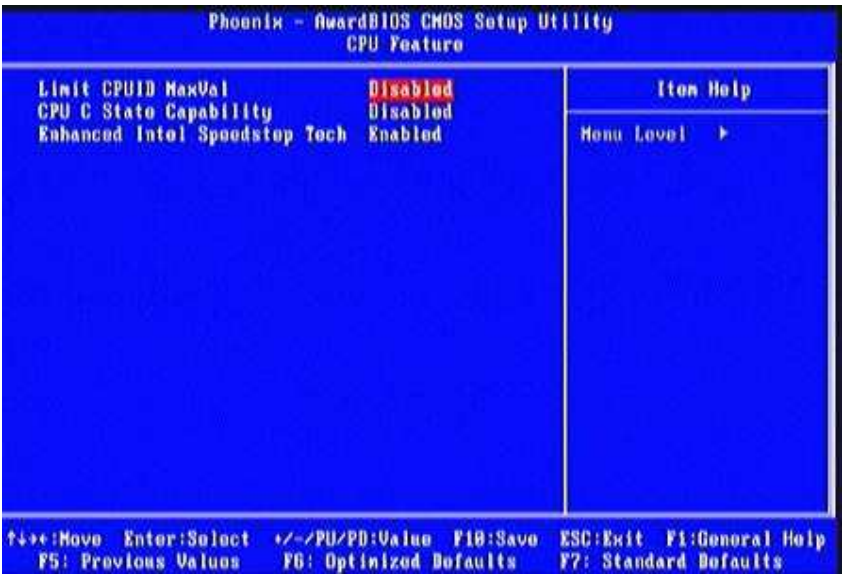
OS Select for DRAM > 64MB

Allows OS2® to be used with >64MB or DRAM. Settings are Non-OS/2 (default) and OS2.   Set to OS/2 if using more than 64MB and running OS/2®.

HDD S.M.A.R.T Capability

This option allow you to enable the HDD S.M.A.R.T Capability (Self-Monitoring, Analysis and Reporting Technology) . You can choose from Enabled and Disabled.

3.5.1 CPU Features

Limit CPUID Maxval

This option supports the max ID of comparatively old processor.

CPU C State Compatibility

The optional settings are: Disabled; C2; C4.

Enhanced Intel Speedstep Tech

This option can provide average power savings depending on system usage and design.

3.6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

DRAM Timing Selectable

The optional settings are: By SPD; Manual. If you chose Manual, you could activate the four items following it and make modification manually.

System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.   However, if any program writes to this memory area, a system error may result. The settings are: Enabled and Disabled.

OnChip Frame Buffer Size
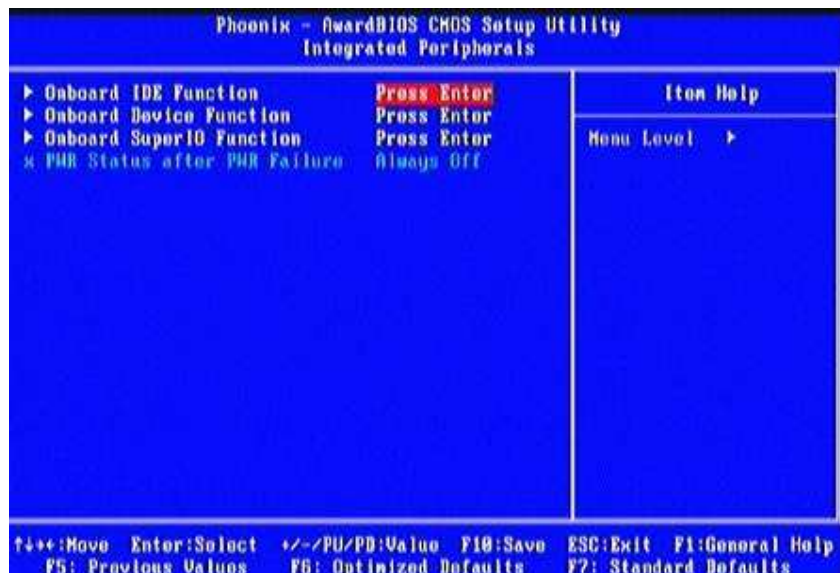
The optional settings are: 1MB; 8MB.

DVMT Memory Memory Size

The optional settings are: 64 MB; 128MB; 224MB.

Boot Display

The optional settings are: Auto; CRT; DVI; LVDS; CRT+LVDS; CRT+DVI.

3.7 Integrated Peripherals

3.7.1 Onboard IDE Function

IDE Channel Master/Slave PIO

The two IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the two IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Channel Master/Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA133, select Auto to enable BIOS support.   The settings are: Auto, Disabled.

IDE DMA Transfer Access

The integrated peripheral controller contains an IDE interface with support for one IDE channels. Select Enabled to activate each channel separately. The settings are: Enabled and Disabled.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write.   If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.   The settings are: Enabled, Disabled.

Delay for HDD (Sec.)

The optional settings range from 0 to 15 seconds.

SATA Port Speed Settings

The optional settings are: Disabled; Force GENI; Force GEN II.

3.7.2 Onboard Device Function

High Definition Audio

This item allows you to decide to enable/disable the chipset family to support HD Audio.   The settings are: Enabled, Disabled.

USB 2.0 Function

Use this item to enable or disable USB 2.0 function.

USB Operation Mode

The optional settings are:Full/Low Speed; High Speed.

USB   Keyboard/Mouse /Storage Legacy Support

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB mouse /keyboard/USB storage device. The settings are: Enabled, Disabled.

3.7.3 Onboard SuperIO Function

Onboard Serial Port 1/2

The optional settings are   Disabled, 3F8/IRQ4   2F8/IRQ3, 3E8/IRQ4   2E8/IRQ3.

Onboard Serial Port1 Mode

The optional settings are: RS232; RS422/RS485.

Watchdog Timer Select

This item is used to activate the watchdog function. The optional settings are: Enabled; Disabled. When set it as Enabled user can choose configuration figures in subitems.

Watchdog Timer Value

This item is only activated when Watchdog Timer Select is set as Enabled and users can set a value from the range of 1~255.

Watchdog Timer Unit

This item is only activated when Watchdog Timer Select is set as Enabled and the optional units are: Sec. and Min.

*Note: User needs an additional Watchdog Programming Reference Code to make use of this BIOS function. Detailed procedures please download from our website if necessary.

The Delay Time for S5

users can set a value from the range of 1~255.

3.8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.

ACPI Suspend Type

Use this item to select ACPI suspend type. The optional settings are: S1(POS); S3 (STR).

Power Management

The optional settings are: User Define; Min Saving; Max Saving.

Video Off Method

This determines the manner in which the monitor is blanked.

Blank Screen   **This option only writes blanks to the video buffer.**

V/H SYNC+Blank   **This selection will cause the system to turn off the vertical and horizontal**
    synchronization ports and write blanks to the video buffer.

DPMS **Initial display power management signaling.**

Video Off in Suspend

The optional settings are: Yes; No.

Suspend Type

The optional settings are: Stop Grant; PwrOn Suspend.

MODEM Use IRQ

If you want an incoming call on a modem to automatically resume the system from a power-saving mode,
    use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have
    to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Soft-Off by PWRBTN

Under ACPI (Advanced Configuration and Power management Interface) you can create a software
    power down. In a software power down, the system can be resumed by Wake up Alarms. This item
    lets you install a software power down that is controlled by the power Button on your system. If the
    item is set to Instant-Off, then the power button causes a software power down. If the item is set to
    Delay 4 Sec, then you have to hold the power button down for four seconds to cause a software
    power down.

EUP Function

The optional settings are: Enabled; Disabled. User can set it as   Enabled to select the relative items for
    the follwoing wake up events: Power on by Ring, Wake-Up by USB KB from S3(S4), and Resume by

Alarm.

Resume by Alarm

When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time .

Date (of month)

You can choose which month the system will boot up.   Set to 0, to boot every day.The optional settings range from 0 to 31

Time (hh:mm:ss)

You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

3.9 PnP/PCI Configuration

PCI/VGA Palette Snoop

This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

IRQ Resources

Names the interrupt request (IRQ) line assigned to the USB on your system. Activity of the selected IRQ always awakens the system.

3.10 PC Health Status

This section shows the Status of you CPU, Fan, and Warning for overall system status.   This is only

available if there is Hardware Monitor onboard.

Shutdown Temperature

This item can let users setting the Shutdown temperature, when CPU temperature over this setting the system will auto shutdown to protect CPU.

CPU Thermal Throttling

The optional settings are: Disabled; Enabled. When it is set as Enabled user could set value for CPU Thermal-Throttling Temp.; CPU Thermal-Throttling Duty and CPU Thermal-Throttling Beep.

Show PC Health in Post

During Enabled, it displays information list below.   The choice is either Enabled or Disabled

+5V OUT/+12V OUT/Vcc3V OUT

User can set is Disabled or select to add a value in the range of +5% to +35%.

Smart Fan Configuration

The optional settings are: Disabled; Enabled. When it is set as Enabled user could set value for SYS FAN1 Full-Speed Temp., SYS FAN1 Idle Temp. and SYS FAN1 IDLE-Speed Duty.

VCC3V/Vcore/ /NB/5 VSB /VDIMM/+5V/+12V/ VSB3V/Vbat/ CPU Temperature/ System Temperature/ SYSFAN1 Speed/

This will show the CPU/FAN/System voltage chart and FAN Speed.

3.11 Miscellaneous Control

CPU Clock Ratio Unclock

This item is used to lock or unlock CPU ratio.

CPU Clock Ratio

The optional settings range from 6X to 12X.

DRAM Clock at Next Boot

This item allows you to set DRAM clock. The optional settings are:By SPD(DDR 533); 400MHz; 533MHz..

3.12 Password Setting

You can set either supervisor or user password, or both of them.   The differences are:

Supervisor password: Can enter and change the options of the setup menus.

User password: Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

   ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory.   You will be asked to confirm the password. Type the password again and press <Enter>.   You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password.   A message will confirm that the password will be disabled.   Once the password is disabled, the system will boot and you can enter Setup freely.

   PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This

prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

3.13 Load Standard/Optimized Defaults

Load Standard Defaults

When you press <Enter> on this item, you get confirmation dialog box with a message similar to:

Load Standard Defaults (Y/N)? N

Pressing <Y> loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)?

Pressing <Y> loads the default values that are factory settings for optimal performance system operations.

Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows XP. The software and drivers are included with the motherboard. The contents include Intel **chipset driver, VGA driver, LAN driver, Audio driver, Touch Panel driver**
Installation instructions are given below.

Important Note:

After installing your Windows operating system (Windows XP), you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.

I

4.1 Intel Chipset Driver

To install the Intel chipset driver, please follow the steps below.

Step 1: Select Chipset from the list

Follow the step-by-step installation process to install the LMS_SQL driver.

Click Finish, when the installation process is complete, the Setup Complete screen appears. See as picture.

4.2 Intel VGA Chipset Driver

To install the VGA drivers, follow the steps below to proceed with the installation.

1. Click Intel VGA Chipset Driver.

Follow the step-by-step installation process to install the Graphics Media Accelerator driver.
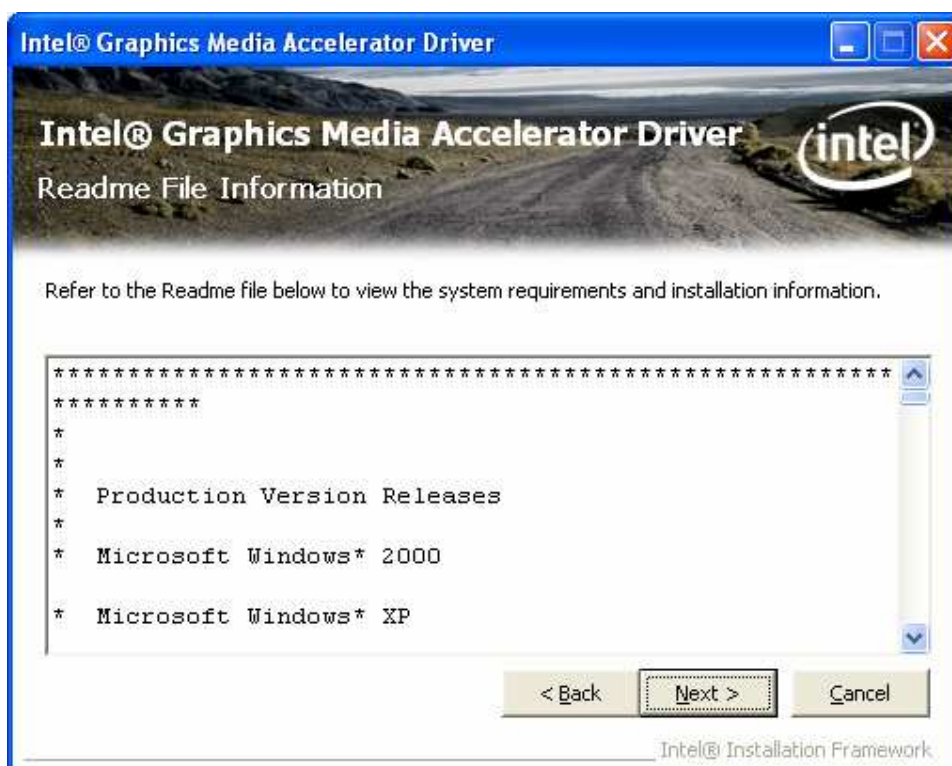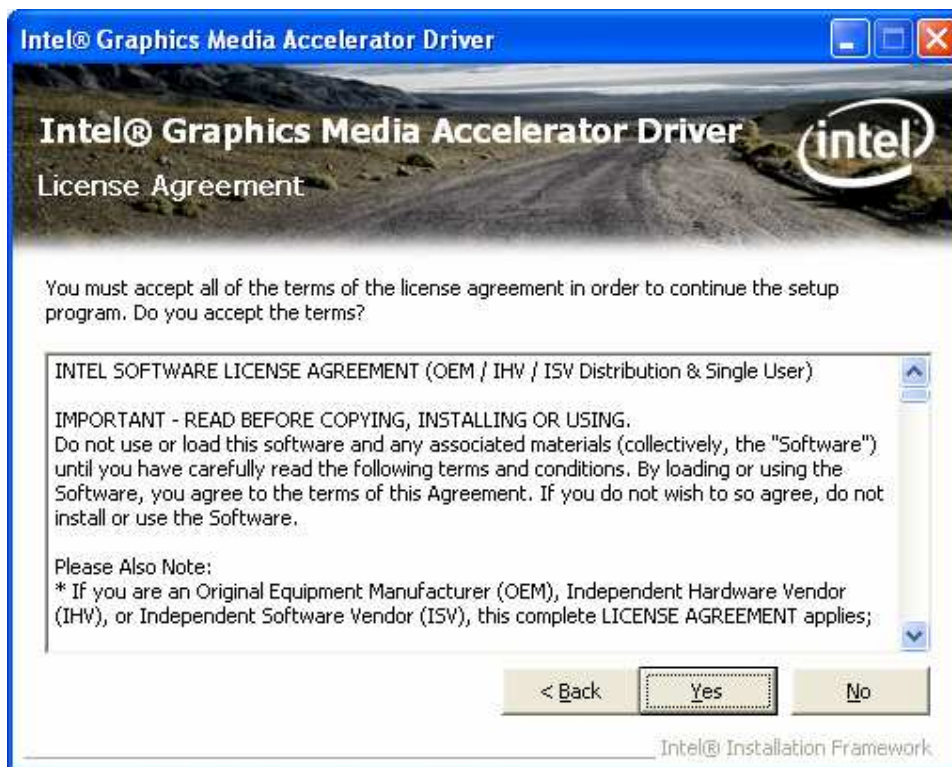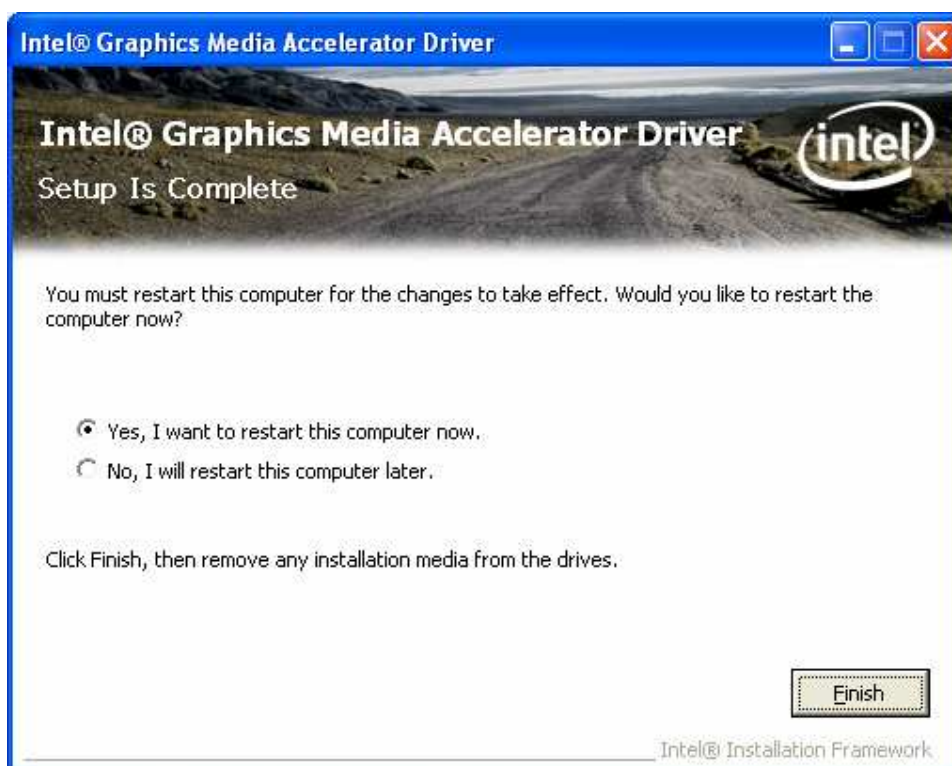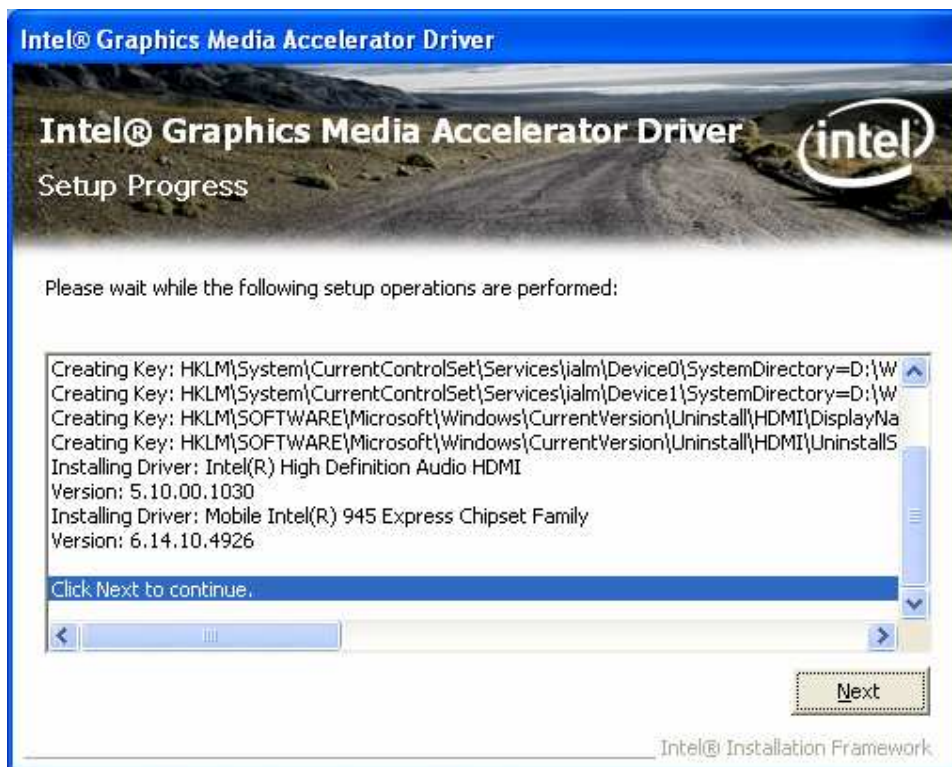
Click FINISH; A Driver Installation Complete.

4.3 Realtek GbE & FE Ethernet PCI-E NIC Driver

To install the Realtek GbE & FE Ethernet PCI-E NIC Driver, please follow the steps below.
Select LAN from the list

Follow the step-by-step installation process to install the LAN driver.

REALTEK GbE & FE Ethernet PCI-E NIC Driver - InstallShield Wizard

Ready to Install the Program
The wizard is ready to begin installation.

Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

< Back   Install   Cancel

REALTEK GbE & FE Ethernet PCI-E NIC Driver - InstallShield Wizard

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed REALTEK GbE & FE Ethernet PCI-E NIC Driver. Click Finish to exit the wizard.

< Back   Finish   Cancel

Click FINISH; A Driver Installation Complete.

4.4 Realtek HD Audio Driver Installation

To install the Realtek High Definition (HD) Audio driver, please follow the steps below.
Select Audio from the list

Follow the step-by-step installation process to install the Realtek HD Audio driver.
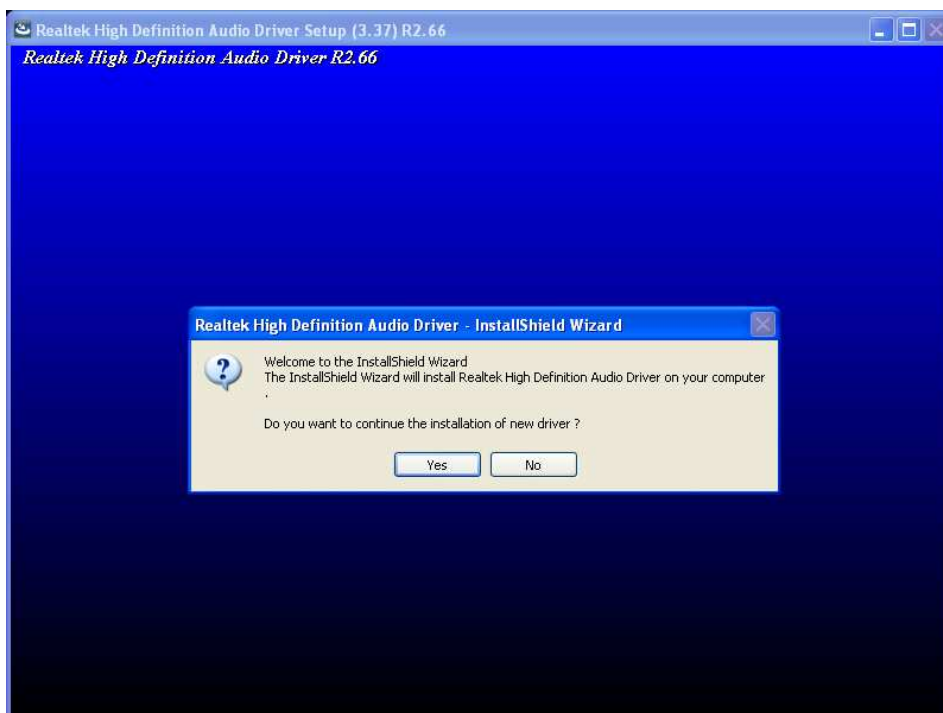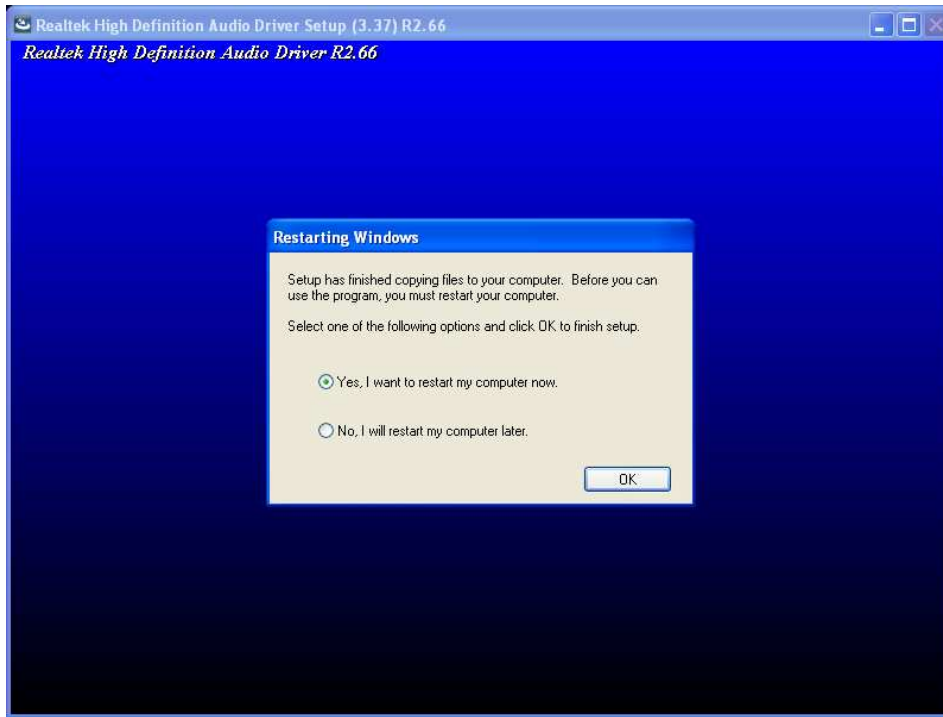
Click FINISH; A Driver Installation Complete.

Chapter 5 Touch Screen Installation

This chapter describes how to install drivers and other software that will allow your PenMount 6000 Controller Board to work with different operating systems.

NOTE: PenMount USB drivers support up to 15 USB controllers.

5.1 Introduction to Touch Screen Controller Board

PenMount 6300 USB control board is a touch screen control board designed for USB interface and specific for 4, 5, 8-wire touch screens. It is designed with USB interface features with multiple devices supporting function. PenMount 6300 control board using PenMount 6000 controller that has been designed for those who may like and all-in-one solution with 10-bit A/D converter built-in to make the total printed circuit board denser, circuit diagram also designed for 12-bit ADC for optional. There are two connectors on this board, one connector is for 4, 5, 8-wire touch screen cable (optional), and another is for 4-pin USB A type cable (optional).
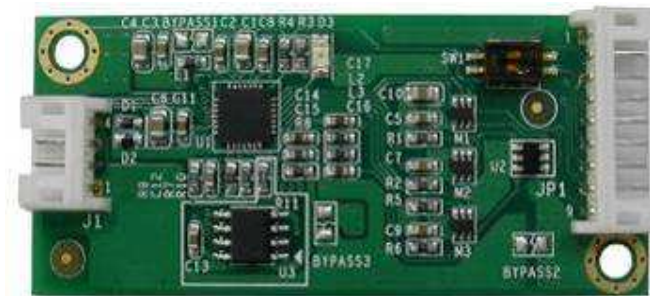
Figure 5.1: Bird's Eye View of Control Board

5.2 Windows 2000/XP/2003/Vista Universal Driver Installation

for PenMount 6000 Series

Before installing the Windows 2000/XP driver software, you must have the Windows 2000/XP system installed and running on your computer. You must also have one of the following PenMount 6000 series controller or control boards installed: PM6500, PM6300.
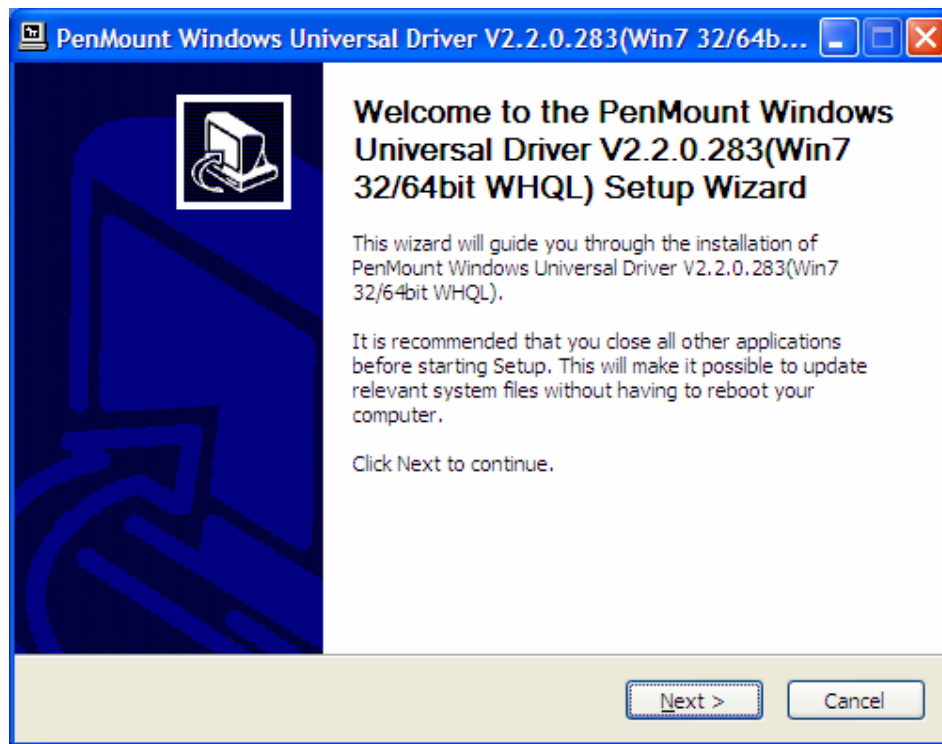
5.2.1 Installing Software

If you have an older version of the PenMount Windows 2000/XP driver installed in your system, please remove it first. Follow the steps below to install the PenMount DMC6000 Windows 2000/XP driver.

1. Please make sure your PenMount 6000 device had plugged in advance. If your device uses RS232 interface, please plugged in before the machine is turned on. When the system first detects the controller board, a screen appears that shows "Unknown Device". Do not use this hardware wizard. Press Cancel.

2. Insert the product CD install **setup.exe.** the screen below would appear. Click touch panel driver

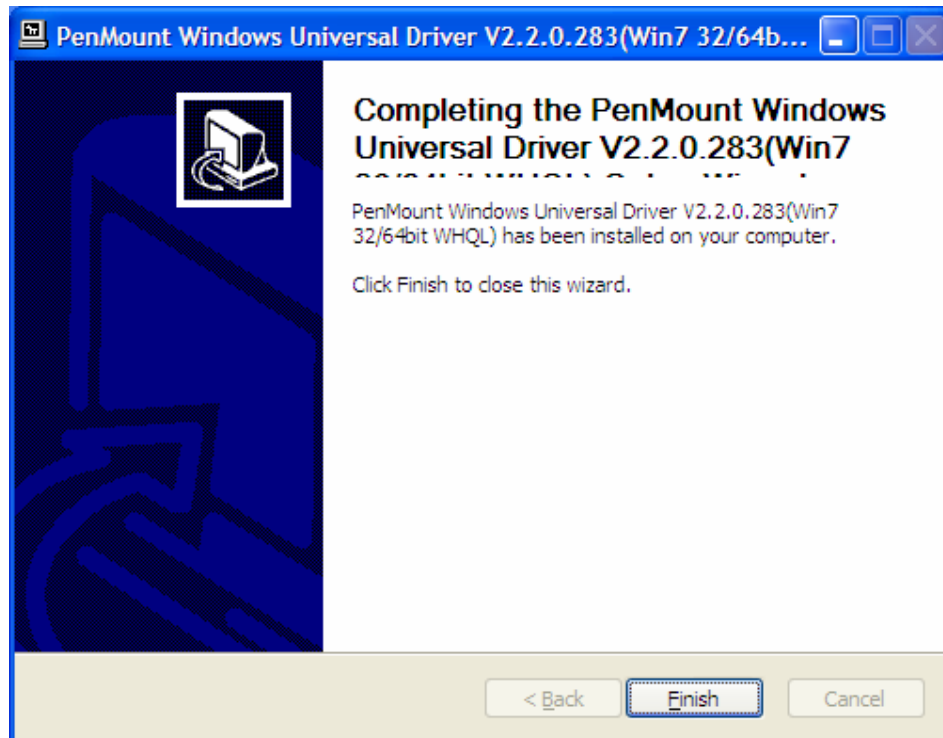3. A License Agreement appears. Click "**I Agree…**" and "**Next**"

4. Ready to Install the Program. Click "**Install**"
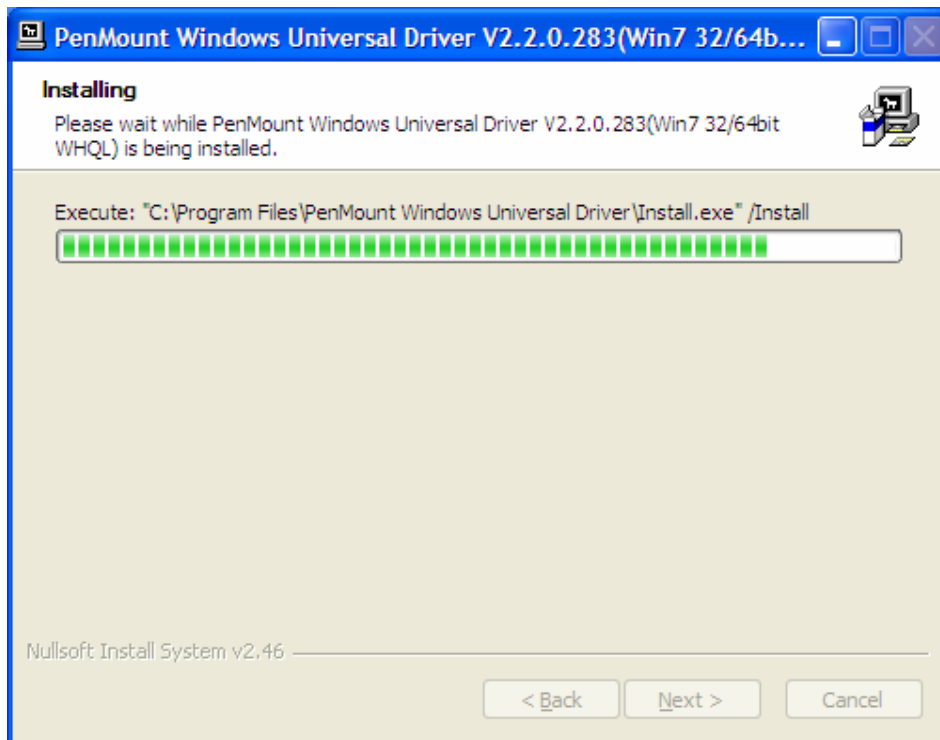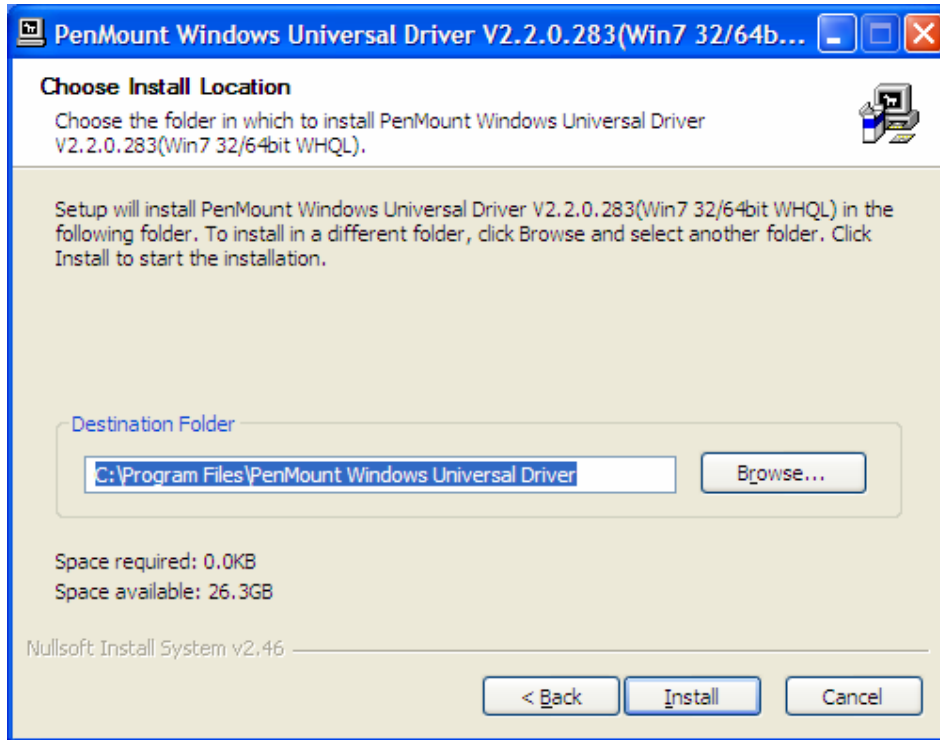
5. Installing
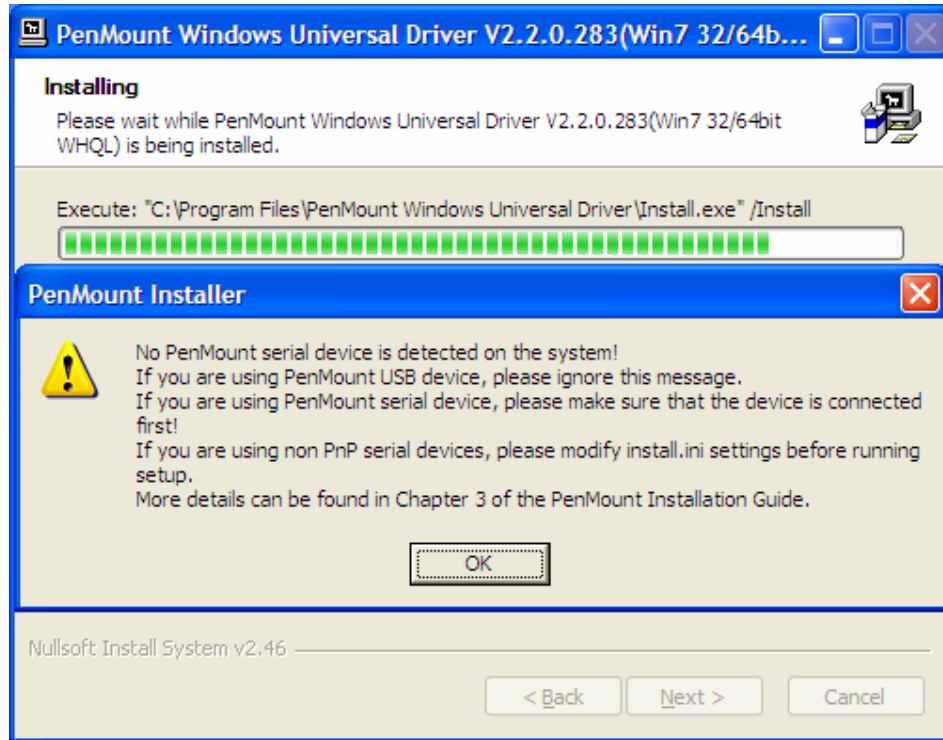
6. The "Install Shield Wizard Completed" appears. Click "**Finish**".

5.2.2 Software Functions

Upon rebooting, the computer automatically finds the new 6000 controller board. The touch screen is connected but not calibrated. Follow the procedures below to carry out calibration.

1. After installation, click the PenMount Monitor icon "PM" in the menu bar.

2. When the PenMount Control Panel appears, select a device to "Calibrate."

PenMount Control Panel

The functions of the PenMount Control Panel are **Device, Multiple Monitors, Tools** and **About**, which are explained in the following sections.

Device

In this window, you can find out that how many devices are detected on your system.
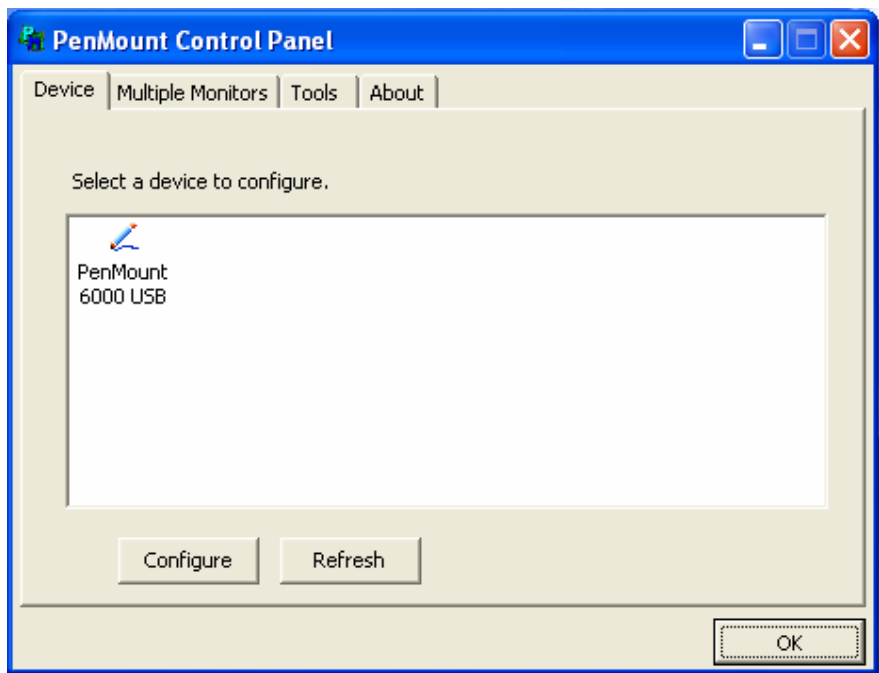
Calibrate

This function offers two ways to calibrate your touch screen. 'Standard Calibration' adjusts most touch screens. 'Advanced Calibration' adjusts aging touch screens.

Standard Calibration	**Click this button and arrows appear pointing to red squares. Use your finger or stylus to touch the red squares in sequence. After the fifth red point calibration is complete. To skip, press 'ESC'.**

Advanced Calibration	**Advanced Calibration uses 4, 9, 16 or 25 points to effectively calibrate touch panel linearity of aged touch screens. Click this button and touch the red squares in sequence with a stylus. To skip, press ESC'.**
Command Calibration	**Command call calibration function. Use command mode call calibration function, this can uses Standard, 4, 9, 16 or 25 points to calibrate** E.g. Please run ms-dos prompt or command prompt c:\Program Files\PenMount Universa Driver\Dmcctrl.exe -calibration 0 (Standard Calibration) Dmcctrl.exe - calibration ($) 0= Standard Calibration 4=Advanced Calibration 4 9=Advanced Calibration 9 16=Advanced Calibration 16 25=Advanced Calibration 25

1. Please select a device then click "Configure". You can also double click the device too.
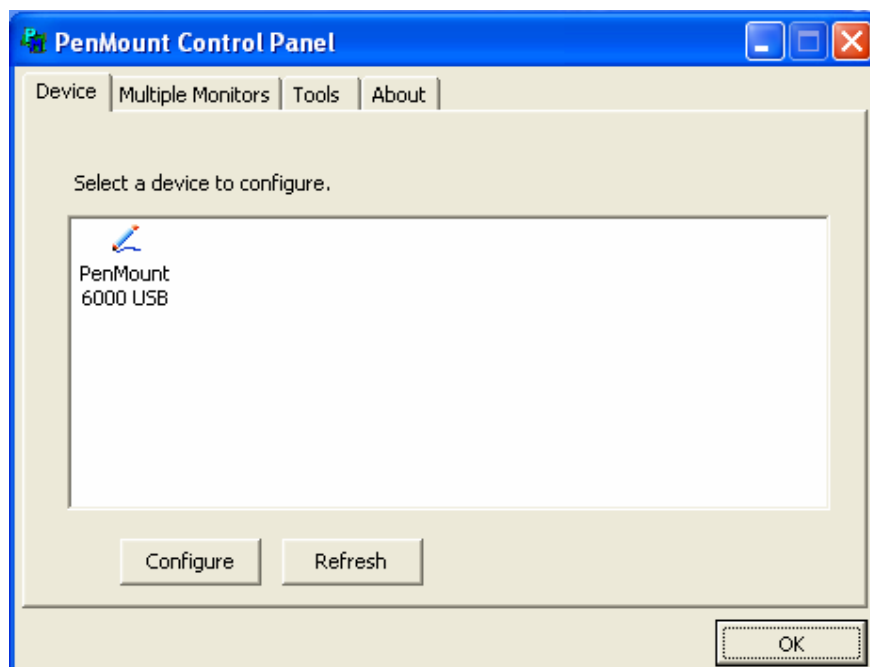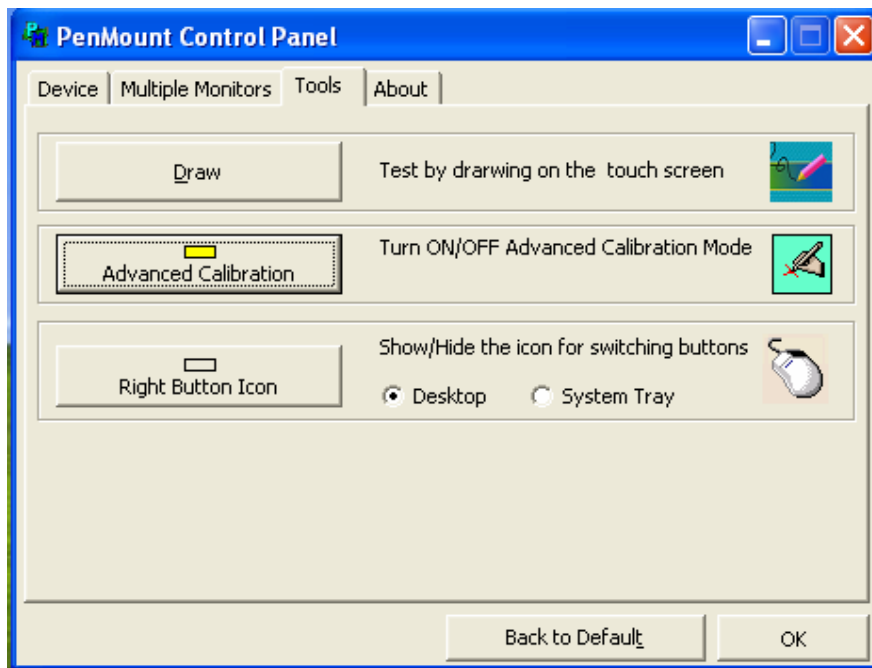

2.Click "Standard Calibration" to start calibration procedure
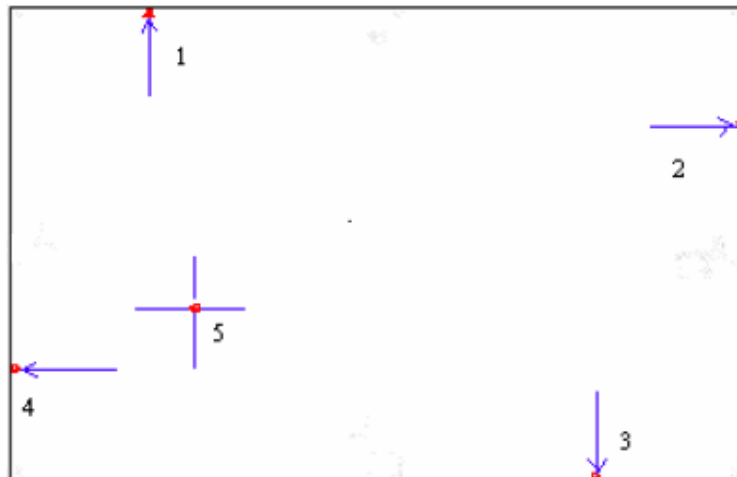
NOTE: The older the touch screen, the more Advanced Mode calibration points you need for an accurate calibration. Use a stylus during Advanced Calibration for greater accuracy. Please follow the step as below:

3.Come back to "PenMount Control Panel" and select "**Tools**" then Click "**Advanced Calibration**".

Select "**Device**" to calibrate, then you can start to do "Advanced Calibration".
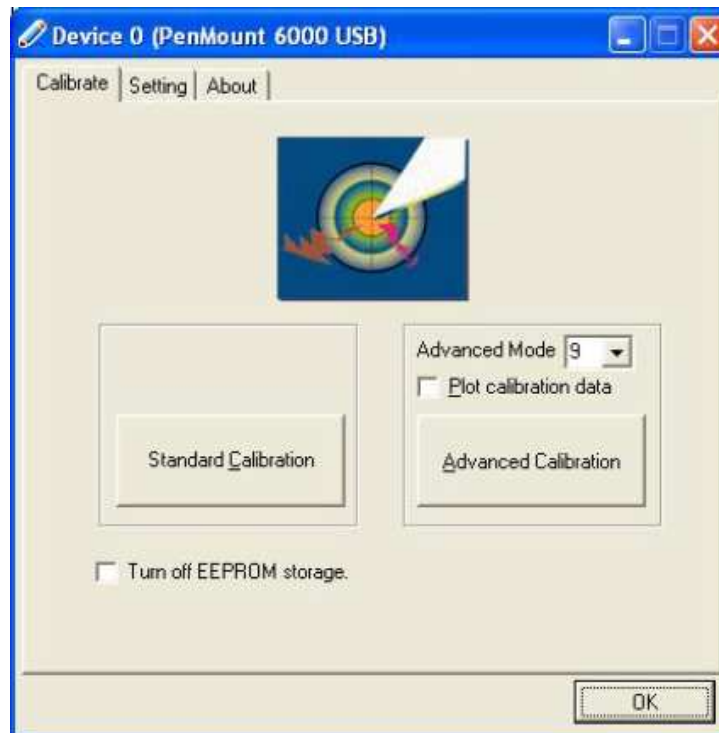
NOTE: Recommend to use a stylus during Advanced Calibration for greater accuracy.

| Plot Calibration Data	Check this function and a touch panel linearity comparison graph appears when you have finished Advanced Calibration. The blue lines show linearity before calibration and black lines show linearity after calibration.
Turn off EEPROM storage	The function disable for calibration data to write in Controller. The default setting is Enable

Setting

Touch Mode	This mode enables and disables the mouse's ability to drag on-screen icons—useful for configuring POS terminals. Mouse Emulation – Select this mode and the mouse functions as normal and allows dragging of icons. Click on Touch – Select this mode and the mouse only provides a click function, and dragging is disabled
Beep Sound	Enable Beep Sound – turns beep function on and off Beep on Pen Down – beep occurs when pen comes down Beep on Pen Up – beep occurs when pen is lifted up Beep on both – beep occurs when comes down and lifted up Beep Frequency – modifies sound frequency Beep Duration – modifies sound duration
Cursor Stabilizer	Enable the function support to prevent cursor shake.
Use press and hold as right click	You can set the time out and area for you need
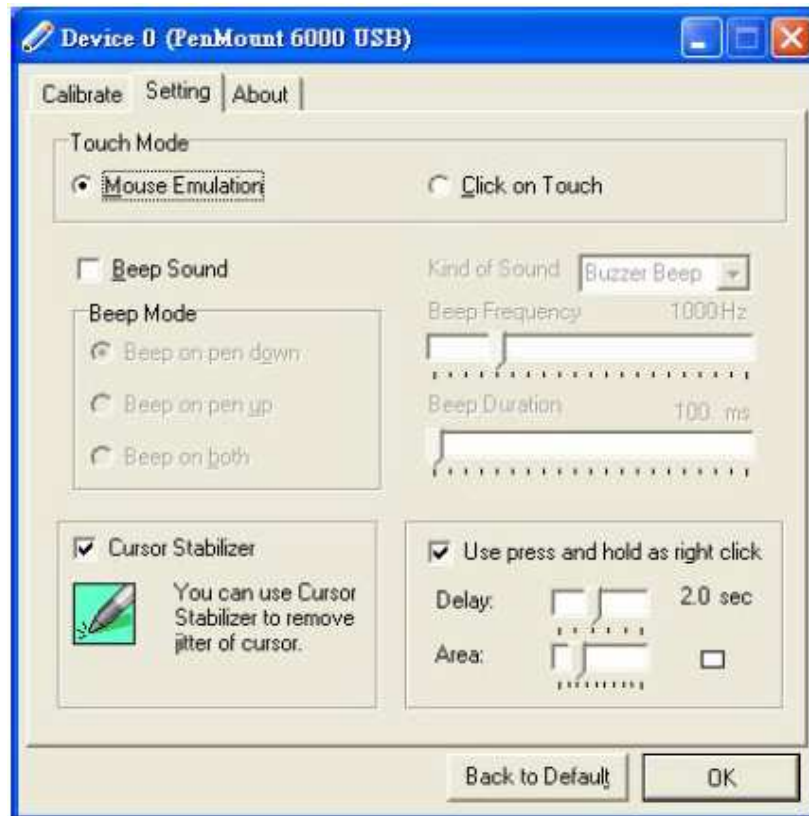
About

This panel displays information about the PenMount controller and driver version.
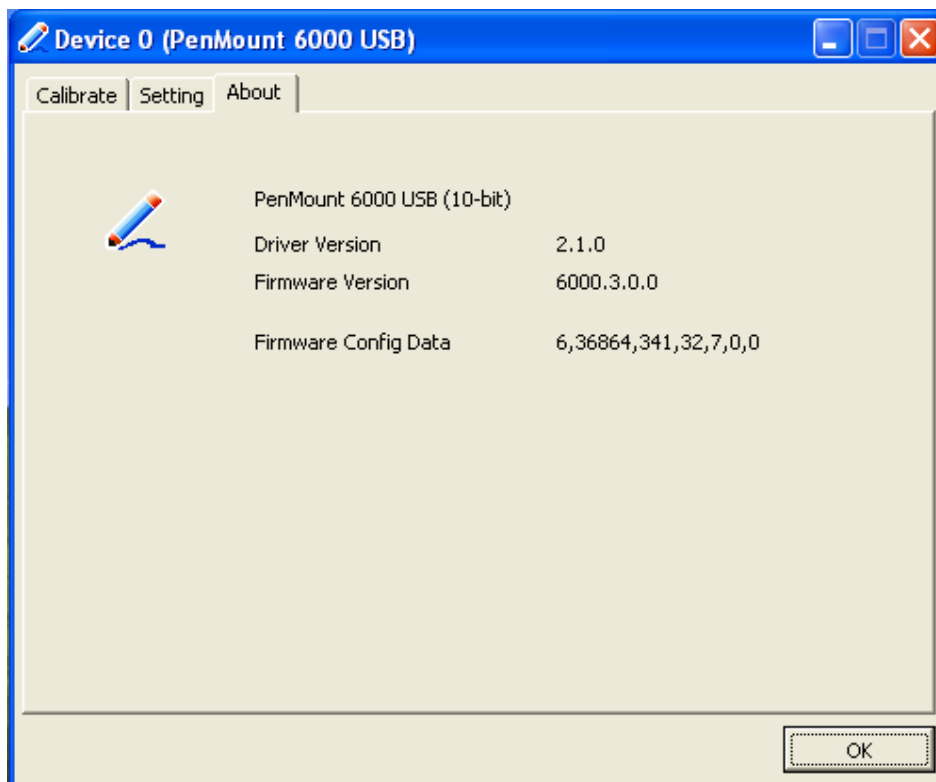
Multiple Monitors

Multiple Monitors supports from two to six touch screen displays for one system. The PenMount drivers for Windows 2000/XP support Multiple Monitors. This function supports from two to six touch screen displays for one system. Each monitor requires its own PenMount touch screen control board, either installed inside the display or in a central unit. The PenMount control boards must be connected to the computer COM ports via the RS-232 interface. Driver installation procedures are the same as for a single monitor. Multiple Monitors supports the following modes:

Windows Extend Monitor Function
Matrox DualHead Multi-Screen Function
nVidia nView Function

NOTE: The Multiple Monitors function is for use with multiple displays only. Do not use this function if you have only one touch screen display. Please note once you turn on this function the Rotating function is disabled.

Enable the multiple display function as follows:
1. Check the "**Multiple Monitor Support"** box; then click "**Map Touch Screens"** to assign touch controllers to displays.
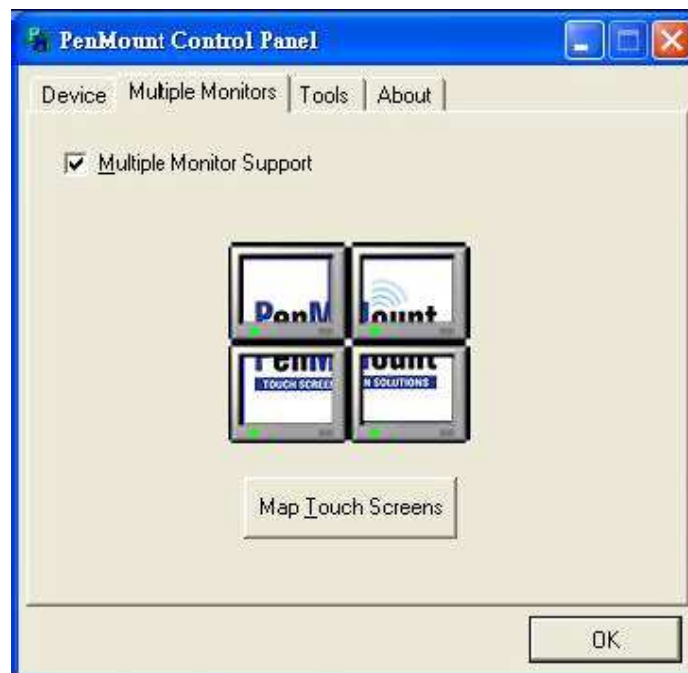
2. When the mapping screen message appears, click "**OK"**
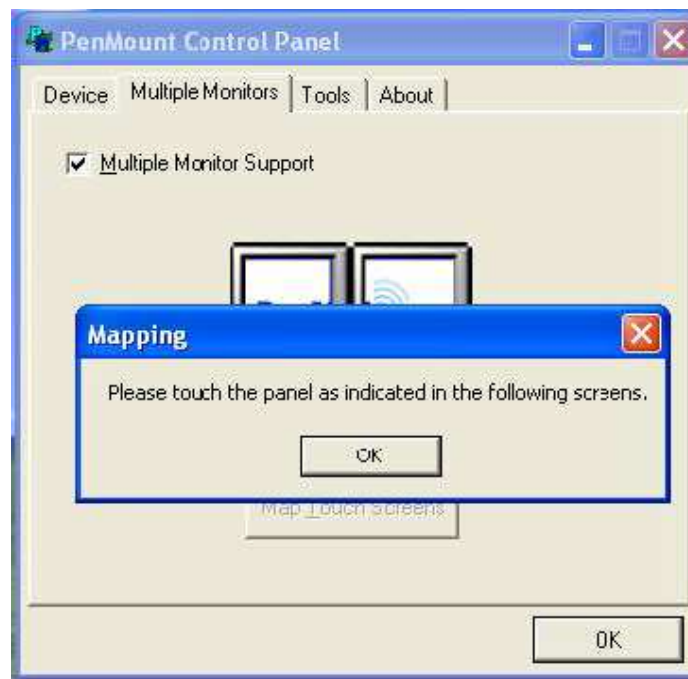
3. Touch each screen as it displays **"Please touch this monitor. Press 'S' to skip"** Following this sequence and touching each screen is called **mapping the touch screens**.


4. After the setting procedure is finished, maybe you need to calibrate for each panel and controller

NOTES:

1. If you used a single VGA output for multiple monitors, please do not use the **Multiple Monitors** function. Just follow the regular procedure for calibration on each of your desktop monitors.

2. The Rotating function is disabled if you use the Multiple Monitors function.

3. If you change the resolution of display or screen address, you have to redo **Map Touch Screens** so the system understands where the displays are.

4. If you more monitor mapping one touch screen, **Please press 'S' to skip mapping step.**
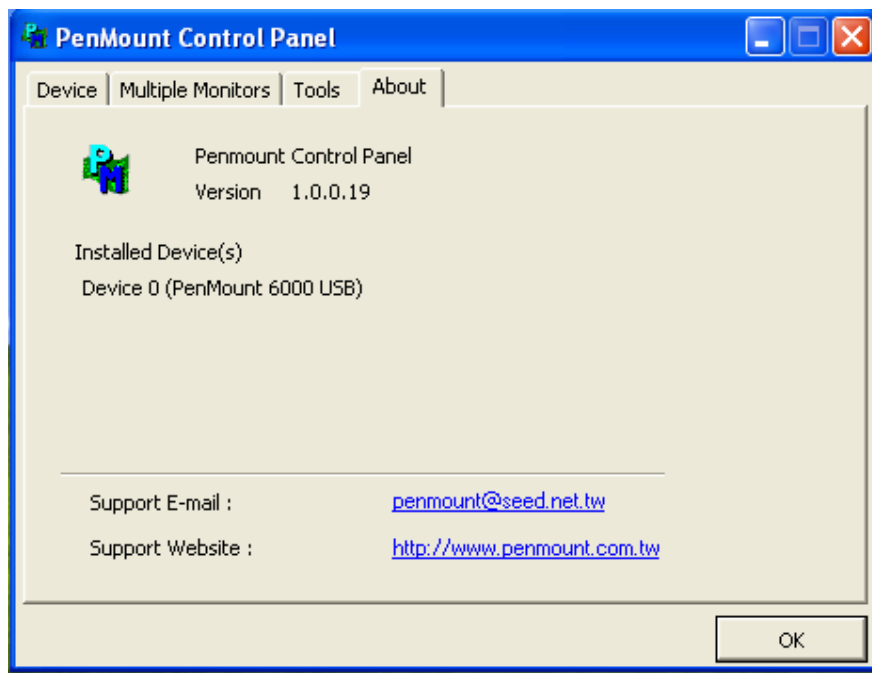
Tools

Draw	Tests or demonstrates the PenMount touch screen operation.
Advanced Calibration	Enable Advanced Calibration function
Right Button Icon	Enable right button function. The icon can show on Desktop or System Tray (menu bar).
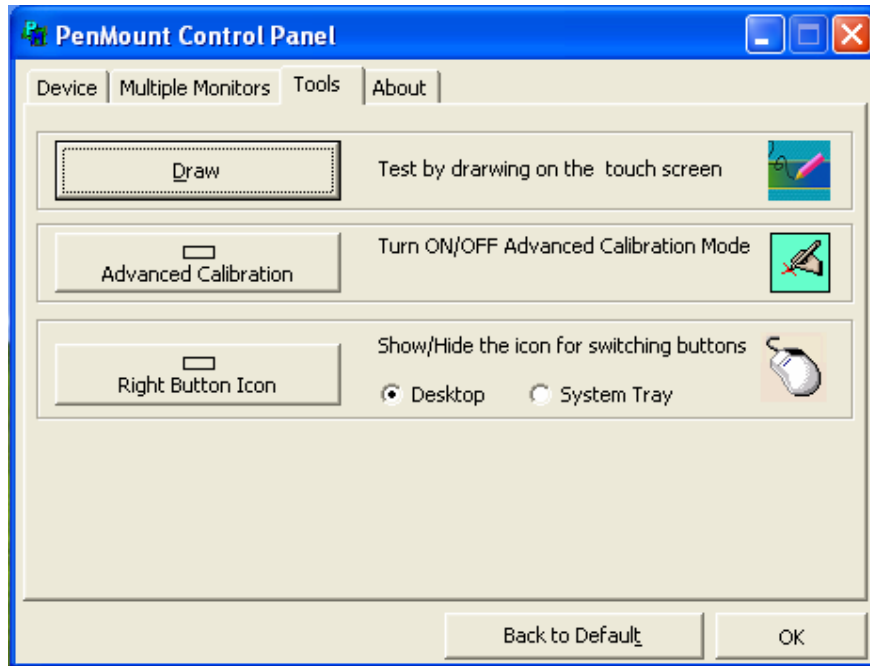
About

You can see how many devices of PenMount controller that are plugged to your system

PenMount Monitor Menu Icon

The PenMount monitor icon (PM) appears in the menu bar of Windows 2000/XP system when you turn on PenMount Monitor in PenMount Utilities.

PenMount Monitor has the following function

| Control Panel	Open Control Panel Windows
Beep	Setting Beep function for each device
Right Button	When you select this function, a mouse icon appears in the right-bottom of the screen. Click this icon to switch between Right and Left Button functions.
Exit	Exits the PenMount Monitor function.

PenMount Rotating Functions

The PenMount driver for Windows 2000/XP supports several display rotating software packages.

Windows Me/2000/XP support display rotating software packages such as:

- Portrait's Pivot Screen Rotation Software
- ATI Display Driver Rotate Function
- nVidia Display Driver Rotate Function
- SMI Display Driver Rotate Function
- Intel 845G/GE Display Driver Rotate Function

Configuring the Rotate Function

1. Install the rotation software package.
2. Choose the rotate function (0°, 90°, 180°, 270°) in the 3rd party software. The calibration screen appears automatically. Touch this point and rotation is mapped.
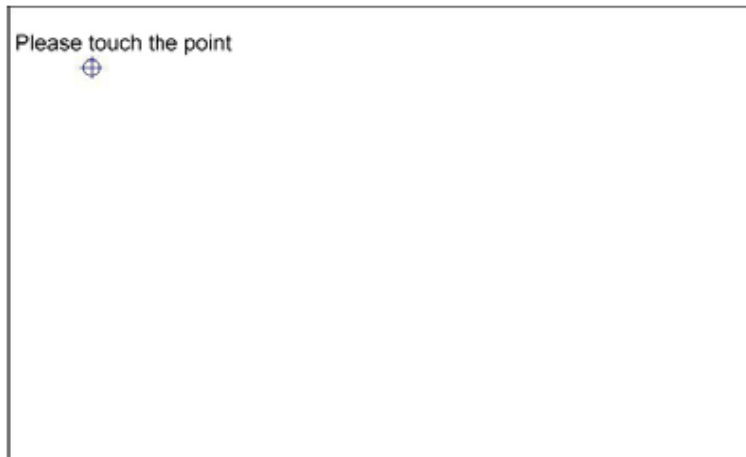
NOTE: The Rotate function is disabled if you use Monitor Mapping