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80 Port Frequently Asked Questions

Below is a list of some basic POST Codes, possible problems and solutions. For more detailed information about POST Codes, refer to Appendix D in this manual.

POST CODE	Problem	Solution
FFh or CFh	1.BIOS chip inserted incorrectly 2. Incorrect BIOS update version 3. Mainboard problem 4. Add-on card inserted incorrectly.	1. Reinsert the BIOS chip 2. Download the correct BIOS version update from the manufacturer's Web site. 3. Replace mainboard 4. Remove and replace the add-on card
C1h - C5h	1. Memory module inserted incorrectly 2. Memory compatibility problem 3. Memory module damaged	1. Reinsert memory module 2. Replace memory with correct type 3. Replace memory module
2Dh	1. Error occured in VGA BIOS 2. VGA card inserted incorrectly	1. Replace VGA card 2. Reinsert the VGA card
26h	Overclock error	Clear CMOS or press the insert key to power on the system
07h - 12h	1[redacted]d controller error 2. RTC error	1. Ensure that the keyboard and mouse are connected correctly. 2. Replace the RTC battery.

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Section 1
INTRODUCTION

1-1 Package Contents

Contents

A. Mainboard
B. User's manual
C. Floppy drive cable
D. HDD drive cable
E. CD (drivers and utilities)
F. I/O Shield
G. S-ATA data and power cable
H. Game & COM bracket cable
I. IEEE 1394 two ports cable
J. Extra USB2.0 port cable
K. SP-ATA Kit

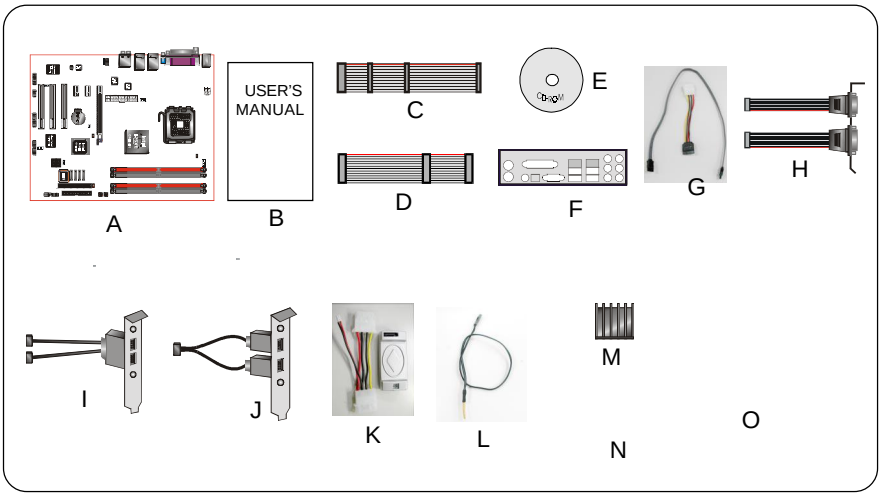
Powerpack items

L. ThermoStick cable
M. Mini heatsink
N. Tool Pen

Optional Items

O. S/PDIF Module

If you need the optional item, please contact your dealer for assistance.



1-2 Mainboard Features

Brief Introduction

★ Intel ® Pentium ® 4 processors

The Pentium 4 processor is designed to deliver performance across applications and usages where end-users can truly appreciate and experience the performance. The Pentium 4 processor delivers this world-class performance for consumer enthusiasts and business professional desktop PC users as well as for entry-level workstation users.

Intel adds support for Hyper-Threading Technology to the Pentium 4 processor family. HT Technology allows a single, physical Pentium 4 processor to function as two logical processor for next generation multi threaded application.

For more information about all the new features the Pentium 4 delivers, check out the Intel website at http://www.intel.com

★ Chipset

This board is designed with Intel® 925XE (Alderwood) chipset. The Intel® 925XE chipset consists of the Graphics Memory Controller Hub (GMCH) and the I/O Controller Hub (ICH6R).

★ DDR2

DDR2 ushers in the new era of DDR memory technology. DDR2 memory offers faster speed, higher data bandwidth and lower power consumption over DDR.

★ PCI-Express (PCI-E)

Next generation peripheral interface to succeed to current PCI bus for the next decade. With smaller slot size and 250MB/sec(PCI-E*1) or 4GB/sec(PCI-E*16) maximum transfer, PCI-Express overcomes PCI bus bottleneck.

★ Ultra ATA100

The mainboard provides an Ultra ATA100 Bus Master IDE controller. This controller supports Ultra ATA100 protocols which are ideal to support demanding applications such as real-time video, multimedia, and a high performance operating system. A new IDE cable is required for Ultra ATA100.

- Hardware Monitoring
  Hardware monitoring enables you to monitor various aspects of the system operation and status. This includes CPU temperature, voltage and fan speed in RPMs.

- Dual GbE LAN
  Two Gigabit-LAN controllers onboard running on the PCI-Express bus. This twin set of PCI-Express to Gigabit-LAN breaks traditional bandwidth barrier, delivering maximum 1000Mbps between internal and external network.

- Serial ATA (S-ATA)
  Support Serial ATA, an evolutionary replacement for Parallel ATA IDE storage interface. Increases the peak data transfer speed up to 150MB/sec and allows future enhancements to the computing platform.

- S-ATA RAID
  RAID function available on chipset S-ATA ports.

- IEEE 1394
  IEEE 1394a provides enhanced PC connectivity for consumer electronics audio/video appliances, storage peripherals, portable devices such as digital cameras, and inter-PC communications. IEEE 1394a provides transfer rates up to 400Mbits/sec.

- USB2.0
  A popular USB standard for plugging in peripherals with up to 480Mbps transfer speed while maintaining backward compatibility with older USB1.1 device.

- 8ch
  Delivers 8 channel audio to bring you the latest in audio realism from DVD movies and games. Perfect for your home theatre system.

Special Features

BIOS Features:

- Magic Health

  Reports your system hardware status for every boot-up to help detect faults early. Monitor hardware status including CPU temperature, CPU/Memory/ Chipset voltage, fan RPM speed for chassis fan, CPU fan & Power supply fan.

- EZ-Boot

  Simply press “ESC” to select your bootable device. No more hassle to search the BIOS menu, change and re-start.

- PowerBIOS

  Supporting a full range of overclocking setting via BIOS. Various adjustable feature include FSB/Chipset/Memory voltage tweaking.

H/W Features:

- 80 Port

  An onboard LED-display trouble-shooting device, facilitating user to detect boot-up problems.

- QuickSPDIF

  On board SPDIF-out connector for quick connection to multi-channel speakers. Not only removes cable cluttering but also delivers loss-free digital audio to let you enjoy DVD movies and games with crystal clear sound.

- Thermo Stick

  Flexible thermometer to let you measure any temperature by software. Ideal for monitoring VGA card, chipset or even disk drives temperatures. Refer to page 3-15 for details.

- EZ-Button

  A handy power-on button located onboard to turn on/off the system easily, especially while debugging or testing the system.

- LEDION

  Onboard LED indicators to show the power status CPU, Chipset and DRAM. You know immediately where to look if the system fails to start.

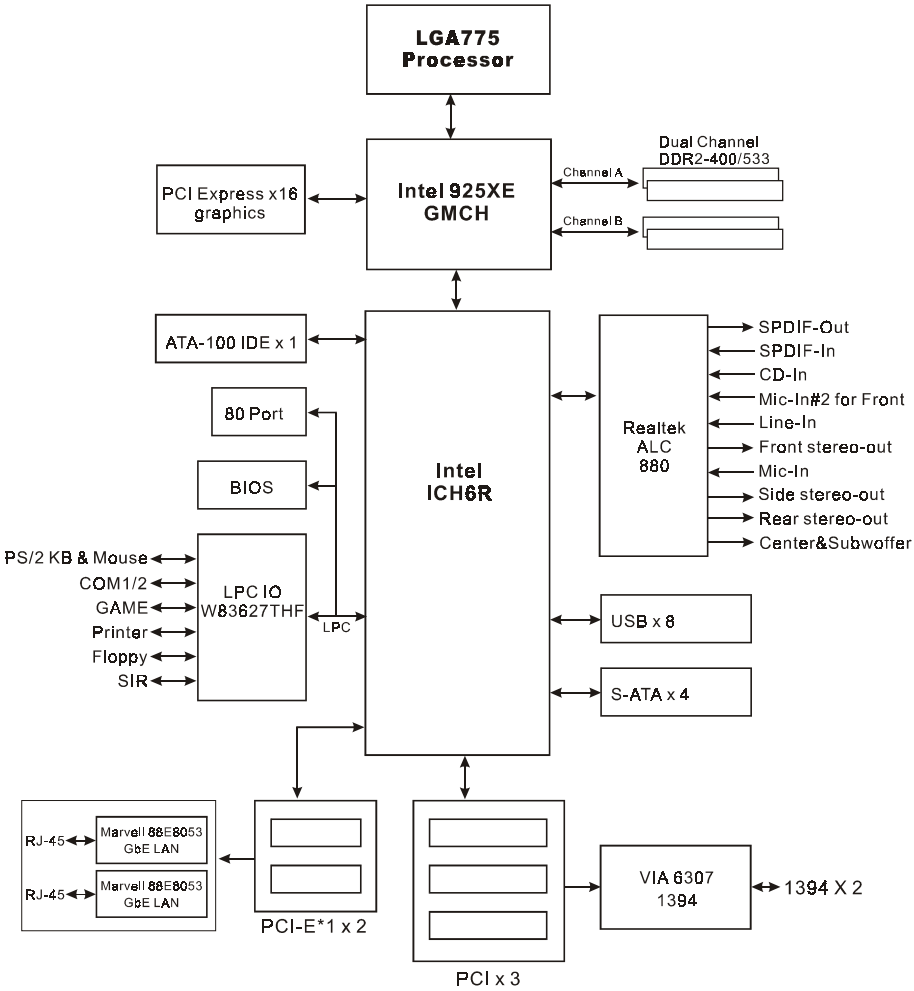
&SP-ATA

A S-ATA to IDE conversion device includes in this package. Older IDE hard-drives can now be plugged to new Serial-ATA interface through this transition kit. SP-ATA even works for CD-ROM and DVD-ROM drives.

&PISTON V

Achieve ultimate overclocking with revolutionary 5-phase switching power. Using "true" five sets of independent switching block, PISTON V offers strong and stable CPU power while producing less heat compared to conventional PWM design.

1-2 System Block Diagram



Section 2
SPECIFICATION

Mainboard Specification

- Processor
  - Support Intel® Pentium® 4 5xx, 6xx and P4EE series processors up to 3.8+ GHz in LGA775 socket with 533/800/1066MHz front-side system bus
  - Support Intel® Celeron D® 3xx series processors up to 3.2+GHz in LGA775 socket with 533 MHz front-side system bus
  - Support Intel 04B or 04A Platform Compatibility Guide
  - Support EM64T for 64-bit O/S support

- Chipset
  - Intel® 925XE Chipset (925XE + ICH6R)

- Main Memory
  - Four 240-pin DDR2 SDRAM DIMM sockets
  - Support single-sided or double-sided, non-ECC, 1.8v DDR2-533/400 DIMMs with dual channel architecture in 256Mb/512Mb/1Gb technologies
  - Supports up to 4GB memory size
  - Turbo Mode technology support under 1066/800MHz FSB and DDR2-533

- Expansion Slots
  - Four PCI connectors compliant with PCI v2.3
  - Two PCI-E x1 connectors compliant with PCI Express 1.0a
  - One PCI-E x16 connectors compliant with PCI Express 1.0a

- IDE
  - One IDE interface (up to 2 IDE devices) with UDMA-33, ATA-66/100 support from embedded IDE controller

- USB
  - Eight USB connectors compliant with USB2.0 from embedded USB controller (4 connectors at rear panel)

- S-ATA RAID
  - Four S-ATA ports with up to 150MBps bandwidth from ICH6R with RAID 0,1 support with Hot-Plug support
- LAN
  - Two Gb Ethernet from onboard Marvell 88E8053 PCI-E*1 controller for Dual LAN with Virtual Cable Net-Diagnostic support
- 1394a
  - Two 1394a ports with up to 400Mbps bandwidth from onboard VIA VT6307 1394 controller
- Audio
  - Selectable 2, 6 or 8-CH audio from onboard ALC880 High Definition audio compliant CODEC with 20-bit ADC and 24-bit DAC resolution
    - Support CD-In, S/PDIF-in and S/PDIF-out
    - Optical & Coaxial S/PDIF-out available on rear panel
    - Support Jack detection for fool-proof audio device installation
    - Rear panel audio jacks configuration:

Audio Jack Color			
	Line-in	Line-in	Line-in
	Line-out	Front stereo-out	Front stereo-out
	Mic-in	Mic-in	Mic-in
			Side stereo-out
		Rear stereo-out	Rear stereo-out
		Center&Subwoofer	Center&Subwoofer

- I/O
  - Onboard Winbond W83627THF LPC bus I/O controller
  - Legacy peripheral interface for PS/2 keyboard & mouse, FDD, Parallel, Two Serial, Game and IrDA (v1.0 compliant)
  - Support Hardware Monitoring for fan speed monitoring, CPU/System temperature and ThermoStick temperature.
  - Intelligent fan speed control for CPU-fan (PWM) and Chassis-fan (DC) for quiet operation

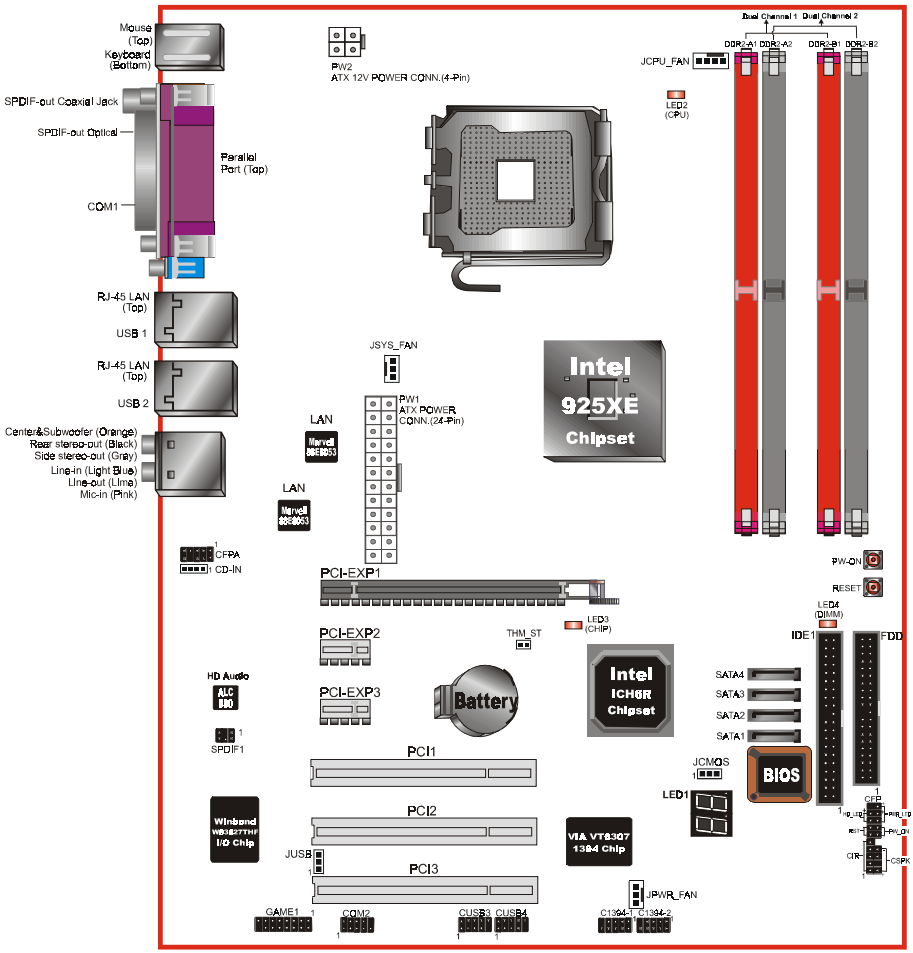
- BIOS
  - Flash EEPROM with Award Plug&Play BIOS
  - Support ACPI S3 (Suspend To RAM) mode in ACPI compliant O/S
  - Support EZ Boot for fast bootable device selection
  - Support Magic Health for system hardware status report during system boot-up

- Peripheral Interfaces
  - At Rear Panel
    - PS/2 keyboard and mouse ports
    - One Parallel (printer) port
    - One S/PDIF-Out Coaxial jack
    - One S/PDIF-Out Optical
    - One Serial port
    - Two RJ45 LAN connector
    - Four USB2.0 ports
    - Six Audio jacks
  - Onboard connector and pin-header
    - One floppy drive connector
    - One ATA-100 IDE connector
    - Four extra USB2.0 ports
    - One CD-IN connector
    - One S/PDIF-in/out connector
    - One IR connector
    - One Game port connector
    - One Serial Port (COM2) connector
    - Four S-ATA connectors
    - Three Fan connectors
    - One RESET and One PW-ON button

- Front Panel Controller
  - ŠSupports Reset & Soft-Off switches
  - ŠSupports HDD & Power LEDs
  - ŠSupports PC speaker
  - ŠSupports Front Panel Audio connector
- Special Features
  - ŠSupport KBPO function – Keyboard power on, turn on the computer from keyboard
  - ŠSupport Wake-On-LAN by PME
  - ŠSupport USB resume in S3
  - ŠOnboard 80 Port LED display for system debugging
  - ŠPowerBIOS for excellent overclocking capabilities through
    - Programmable FSB, PCI-E and PCI Clock output frequency with 1MHz fine tuning
    - Support BIOS adjustable CPU multiplier & Core voltage, FSB clock, PCI-E x16 voltage & clock, Chipset voltage, DIMM frequency and voltage settings
  - ŠSupport LEDION – onboard LED power indicator for CPU, DDR and chipset
- Form Factor
  - Š305mm x 245 mm ATX size

Section 3
INSTALLATION

Mainboard Layout

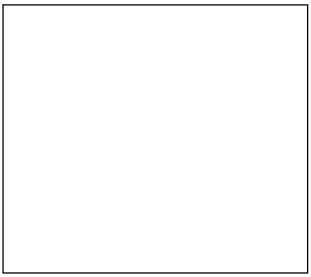


Easy Installation Procedure

The following must be completed before powering on your new system:

3-1. CPU Installation
3-2. Jumper Settings
3-3. System Memory
3-4. Expansion Slots
3-5. Device Connectors

3-1 CPU Installation

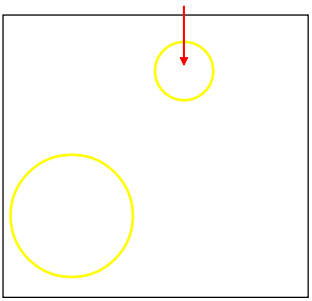


<Figure 1>

Step 1

Carefully remove the plastic protection plate from the socket.

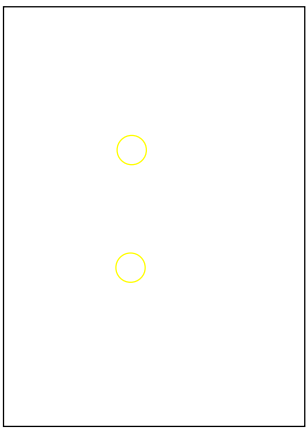
Warning:
The pins inside the CPU socket are fragile and are easily broken. Be careful not to touch them when installing the CPU.



<Figure 2>

Step 2

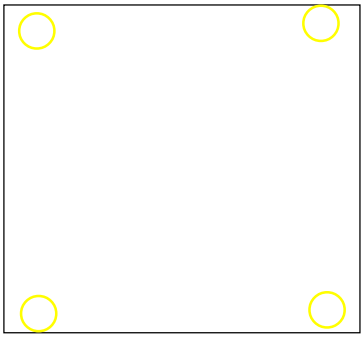
Open the socket by releasing the actuation lever, and press downwards at the tip shown by the arrow.



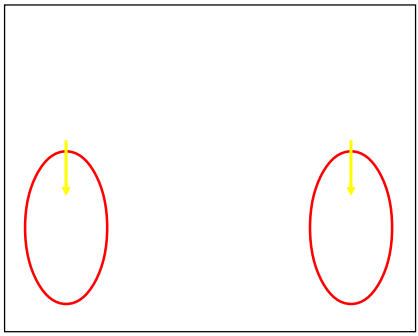
<Figure 3>

Step 3

Before inserting the CPU, align the CPU according to the key slots shown in the picture. Gently place the CPU into the socket and make sure it is fully seated.



<Figure 4>



<Figure 5>

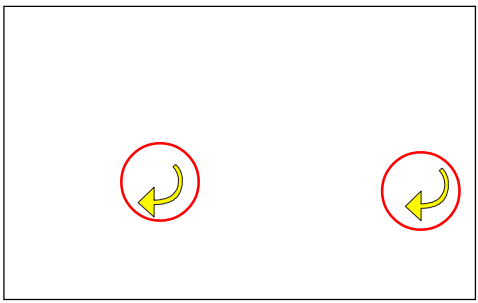
Step 4

a) Put the CPU lid on the socket, and close the socket by lowering and locking the actuation lever.

b) Apply thermal compound to the top of the CPU and into the four holes around CPU area to install the cooler as shown.

Step 5

Place the CPU cooler on top of the socket. Press its clips down firmly until it is completely seated in the hole.



<Figure 6>

Step 6

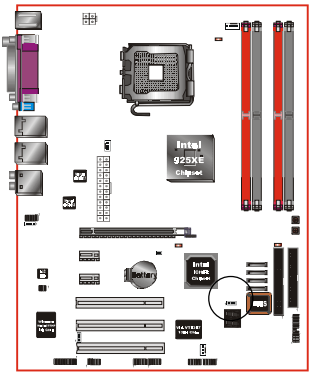
a) Rotate the clips 90 degrees to lock the CPU cooler in place.

b) Plug the cooler fan power into the mainboard's CPU fan connector. The installation is complete.

CAUTION:

- Installing with incorrect CPU cooler and heatsink assemblies may damage the CPU. Use Intel's thermal solution shown in the illustrations above: an active heatsink; an extruded aluminum heatsink base; and a fan attached to the top of the fin array.
- Apply thermal compound or paste to the CPU to avoid CPU overheating and damage.
- In accordance with Intel guidelines specifications, do not install a CPU over 20 times to avoid damaging the pins on the CPU socket.

3-2 Jumper Settings



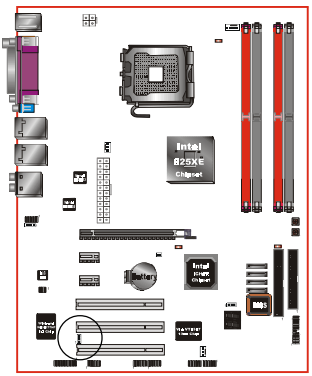
JCMOS: Clear CMOS data Jumper

If the CMOS data becomes corrupted or you forgot the supervisor or user password, clear the CMOS data to reconfigure the system back to the default values stored in the ROM BIOS.

Settings:
1-2: Normal (Default)
2-3: Clear CMOS

To CMOS Clear data, please follow the steps below.

1. Turn off the system.
2. Change the jumper from “1-2” to “2-3” position for a few seconds.
3. Replace the jumper back to the “1-2” position.
4. Turn on the system and hold down the <Del> key to enter BIOS setup.



JUSB: USB S3 Wake up Jumper

This jumper disconnects 5V standby voltage to USB devices. This means USB devices will not be able to wake-up the system from S3 (Suspend to RAM) power saving mode.

Settings:
1-2: Connect (S3 enabled)
2-3: Disconnect (No S3)

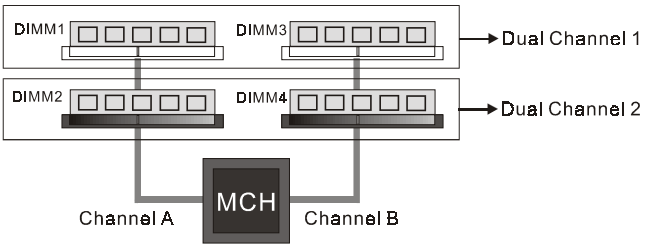
3-3 System Memory Configuration

The mainboard accommodates four 240-pin DDR2 DIMM sockets.

- Supports up to 4.0GB of 400/533MHz DDR2 SDRAM.
- Supports dual channel memory interface.
- Supports non-ECC memory and non-Registered DIMMs only.
- Supports 256Mb/512Mb/1Gb DDR2 technologies in x8 and x16 devices only.
- SPD (Serial Presence Detect) scheme for DIMM detection support.
- Supports configurations defined in the JEDEC DDR2 DIMM specification only.

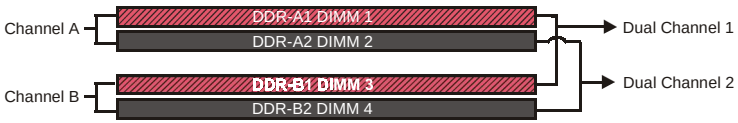
Dual Channel interface:

- Dual channel memory access offers increased system performance. <Figure 7> shows the logical memory layout for channel A and channel B.
- For dual channel to operate, both channel must be populated with same amount of memory, preferably of the same type.



<Figure 7>

- The four DIMM sockets are divided into two colors to help you identify the channel pairs <Figure 8>. Each dual channel pair has the same color, e.g. DIMM1 and DIMM3. To obtain best performance, simply mount DIMM sockets of the same color.



<Figure 8>

Memory configurations supported:

	1 DIMM (64-bit)				2 DIMM (128-bit)				3 DIMM (128-bit)		4 DIMM (128-bit)
DIMM#1	SS/DS				SS/DS			SS/DS	SS/DS	SS/DS	SS/DS
DIMM#2		SS/DS				SS/DS	SS/DS		SS/DS	SS/DS	SS/DS
DIMM#3			SS/DS		SS/DS		SS/DS		SS/DS		SS/DS
DIMM#4				SS/DS		SS/DS		SS/DS		SS/DS	SS/DS

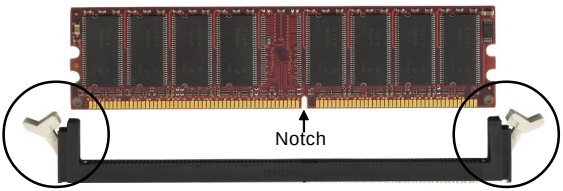
* SS: Single-Sided DIMM, DS: Double-Sided DIMM

Note: Using non-compliant memory with higher bus speeds (overclocking) may severely compromise the integrity of the system.

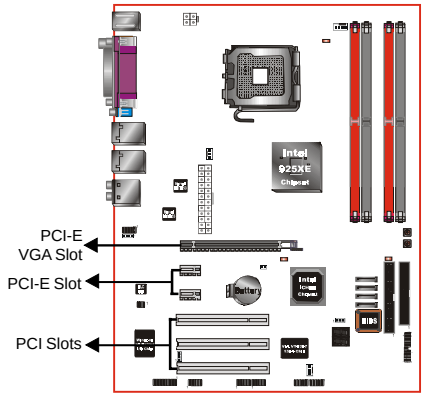
Memory Installation :

❶ To install, align the notch on the DIMM module with the connector.

❷ Press straight down as shown in the figure below until the white clips close and the module fits tightly into the DIMM socket.



3-4 Expansion Slots



PCI-E Slots

The mainboard is equipped with two PCI-E*1 compliant with PCI Express 1.0a.

PCI-E VGA Slots

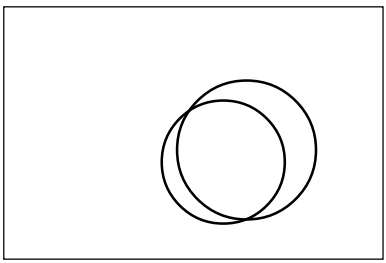
The elongated PCI-E*16 is intended for PCI-E VGA card installation.

PCI Slots

The mainboard is equipped with three PCI slots.

VGA Card Installation Caution

1. Remove the bracket (on the PC case) for the slot you intend to use.
2. Firmly press down the card into the slot until it is completely seated. Ensure the VGA slot clicker is locked as shown in the picture below.



3. Secure the card's bracket to the PC case with a screw.

3-5 Device Connectors

The I/O back panel for this mainboard is shown below. When installing the mainboard into the computer case, use the bundled I/O shield to protect this back panel.

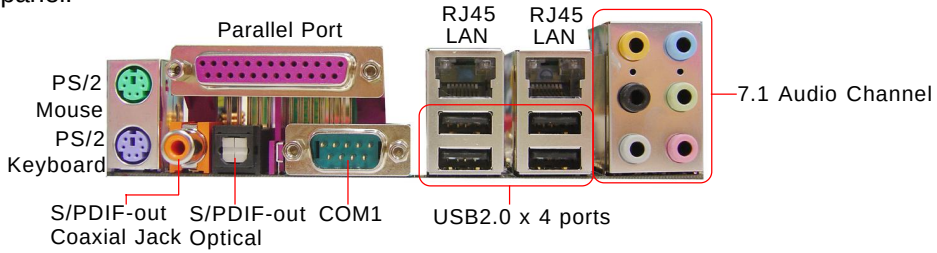
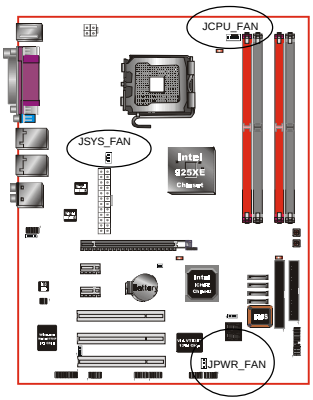


Figure 9 - I/O Ports



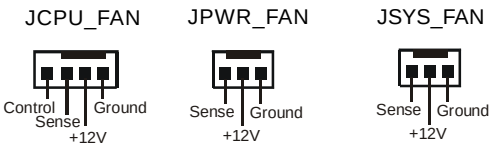
JCPU_FAN / JPWR_FAN / JSYS_FAN:

CPU/Power/Chassis Fan Power Connectors

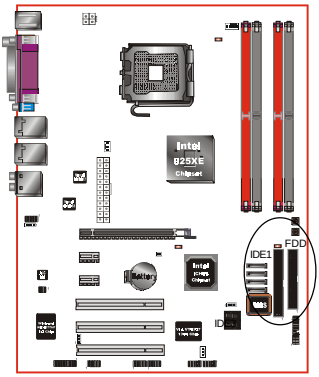
JCPU_FAN: The CPU must be kept cool by using a heatsink with fan assembly.

JPWR_FAN: Ifyou are installing an additional fan in the unit, connect to this fan connector.

JSYS_FAN: The chassis fan will provide adequate airflow throughout the chassis to prevent overheating the CPU.



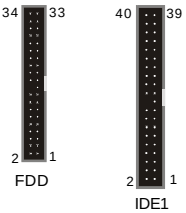
This mainboard is equipped with intelligent fan speed control. Refer to the PC Health Status submenu of the BIOS.

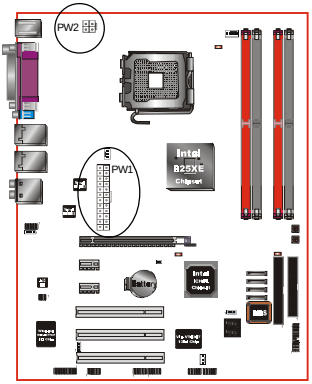


FDD: Floppy Controller Connector

IDE1: ATA-66/100 IDE Connector
Supports up to 2 IDE devices from embedded IDE controller .

When using two IDE drives, one must be set to Master mode and the other to Slave mode. Refer to your disk drive user's manual for information about selecting the proper drive switch settings.



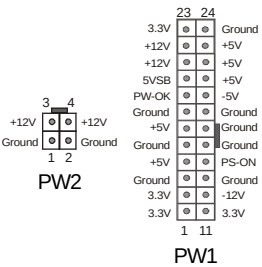


PW1: 24-pin ATX Power Connector

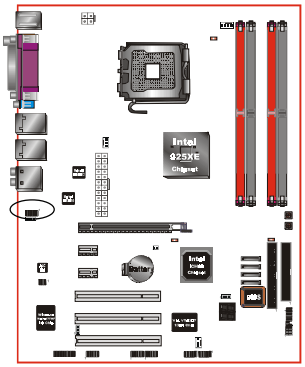
PW2: 4-pin ATX12V Power Connector

The mainboard is equipped with a standard 24-pin ATX main power connector and a 4-pin +12V power connector for connecting an ATX12V power supply. The plugs of the power cables are designed to fit in only one orientation. Insert the plugs into the connectors until they fit in place.

Caution:
The PW1 and PW2 Power Connector must be used simultaneously .

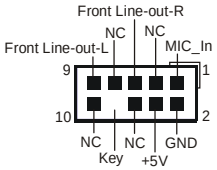


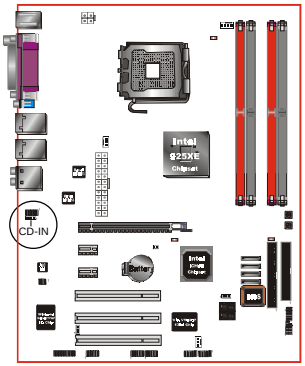
The board requires a minimum of 350 Watt power supply to operate. Your system configuration (amount of memory, add-in cards, peripherals, etc.) may exceed this minimum power requirement. To ensure that adequate power, use a 400 Watt or greater power supply.



CFPA: Front Panel Audio Connector

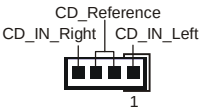
This audio connector connects to the audio jacks located on the front panel. Refer to your case manual to match the pin-out names.

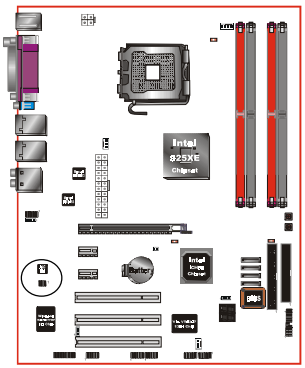




CD-IN: CD Audio_IN Connector

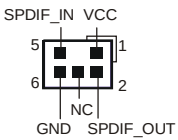
The CD-IN connector is used to receive audio form a CD-ROM drive, TV tuner or MPEG card.

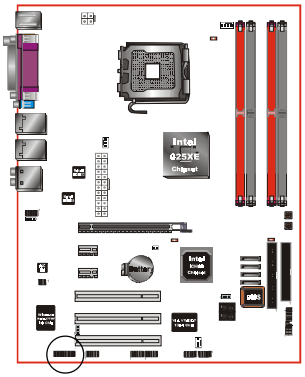




SPDIF: Sony/Philips Digital InterFace connector

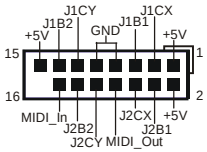
This connector links digital audio between the mainboard and your audio devices, such as CD player, sampler or DAT recorder. It allows the digital transmission of audio data in S/PDIF format.

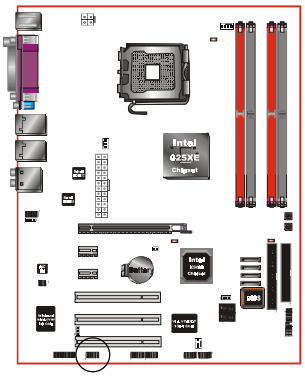




GAME1: Game/MIDI connector

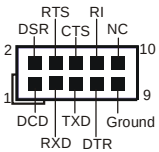
This port works well with any application that is compatible with the standard PC joystick.

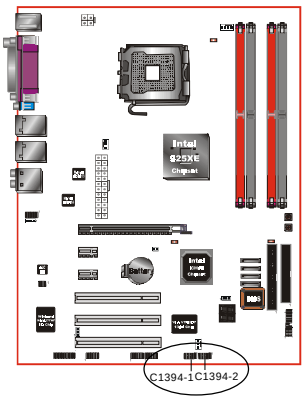




COM2: Serial Port Connector

The serial port can be used with modems, serial printers, remote display terminals, and other serial device.

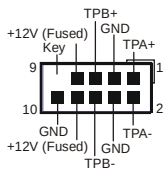


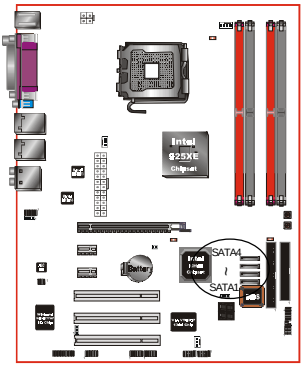


C1394-1 / C1394-2 :

IEEE 1394a (FireWire) Connectors

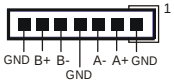
This mainboard has 2 IEEE 1394a ports. To use these ports, you need to attach the bundled 1394 bracket to these headers.



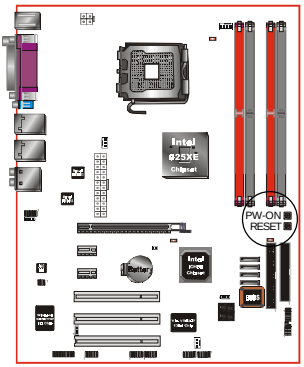


SATA1 / SATA2 / SATA3 / SATA4: S-ATA Connectors

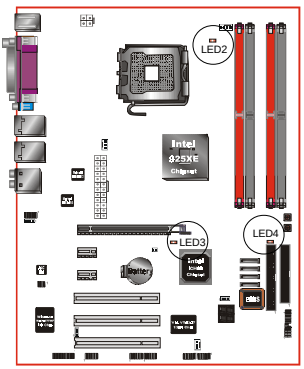
These connectors enable you to connect Serial ATA devices that conform to the Serial ATA specification.



Use the bundled SP-ATA Kit for older IDE hard drives to interface to S-ATA.

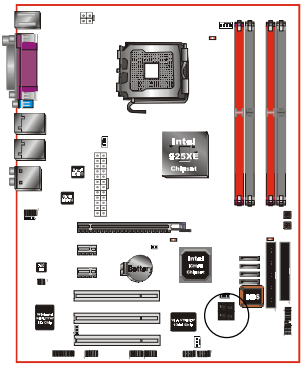


PW-ON button and RESET button:
These buttons located onboard to turn on/off the system easily, especially while debugging or testing the system.



LED1ON :
Onboard LED indicators to show the power status of CPU, Chipset and DRAM. You know immediately where to look if the system fails to start.

LED2: CPU LED
LED3: CHIP LED
LED4: DIMM LED

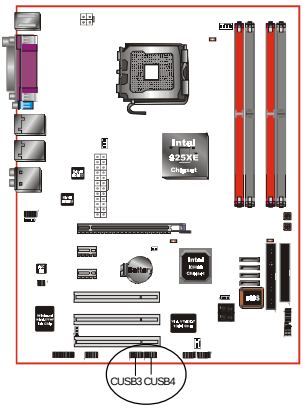


LED1: 80 Port Debug LED

Provides two-digit POST code to show why the system fail to boot. Allows quick and easy optimization.

The LED will display the CPU temperature when you run the bundled USDM software.

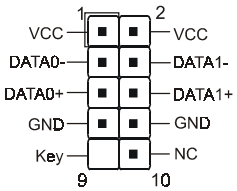
80 Port Debug 7-segment LED display
(Refer to Appendix D for POST codes)



CUSB3/CUSB4:Four USB 2.0 ports

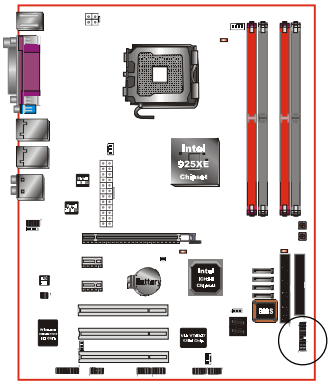
This mainboard includes additional USB2.0 ports, identified by two 10-pin connector.

If you wish to use the additional USB ports, install the card-edge bracket to the system chassis then insert its cables to this 10-pin connector.

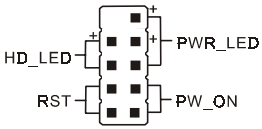


CAUTION!

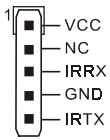
If you purchased a separate USB cable make sure it has the same pin assignment. A different pin assignment may damage the system. If you need the USB cable, please contact our retailer.



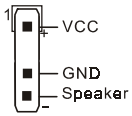
CFP



CIR



CSPK



CFP: Front Panel Connector

- HD_LED
  This LED will light up whenever the hard drive is being accessed.

- PWR_LED
  This connects to the power button of the system chassis

- RST
  This switch allows you to reboot without having to power off the system thus prolonging the life of the power supply or system.

- PW_ON
  This is connected to the power button on the case. To use the Soft-Off by PWR-BTTN feature, refer to the Power Management Setup in the BIOS setup section of this manual.

CIR: IR connector
Connect your IrDA cable to this IR connector.

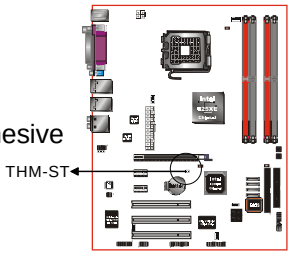
CSPK: Speaker
Connect to the system's speaker for beeping

3-6 Ther mo Stic k Function

This mainboard is equipped with a digital thermometer capability to monitor any temperature. This is useful for measuring heat on peripherals such as VGA cards, hard disk drives, DIMMs or even on-board components such as chipset, MOSFETS, etc.

Thermo Stick consists of:

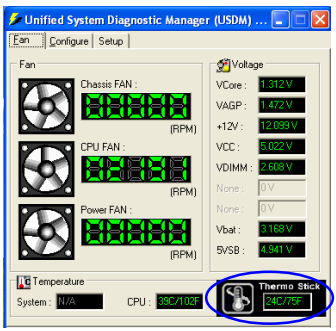
1) THM_ST header located on the mainboard
2) Thermostick sensor cable with heat-tolerant adhesive sticker bundled in the mainboard package
3) USDM software utility



To setup Thermo Stick,

1. Insert the sensor cable to THM_ST header on the mainboard
2. Using the adhesive sticker, affix the sensor head of the cable to your desired point of measure. e.g. the chipset as in the picture below. Trim the adhesive sticker to a suitable size so that it will not affect the heat dissipation of any heatsink.

3. Ensure the cable is neatly tucked away from fans or other moving parts.
4. Install and run the USDM software. The temperature will be shown as below.



3-7 Power-On/Off (Remote)

This board has a 24-pin ATX and a 4-pin ATX12V power supply connector to support power supplies with Remote On/Off feature. The 4-pin ATX12V connector must be plugged in for the system to operate safely. The chassis power button should be connected to the mainboard front panel PW_ON header.

You can turn off the system in two ways: by pressing the front panel power On/Off button or using the "Soft Off" function that can be controlled by an operating system such as Windows® XP/ME/2000/98.

Note: For maintaining the DDR2 SDRAM power during STR (ACPI S3) function, it is strongly recommended to use power supplies that have a +5VSB current of (>=) 2A. Please check the 5VSB's specification printed on the power supply's outer case.

Note: The board requires a minimum of 350 Watt power supply to operate. Your system configuration (amount of memory, add-in cards, peripherals, etc.) may exceed this minimum power requirement. To ensure that adequate power, use a 400 Watt (or higher) power supply.

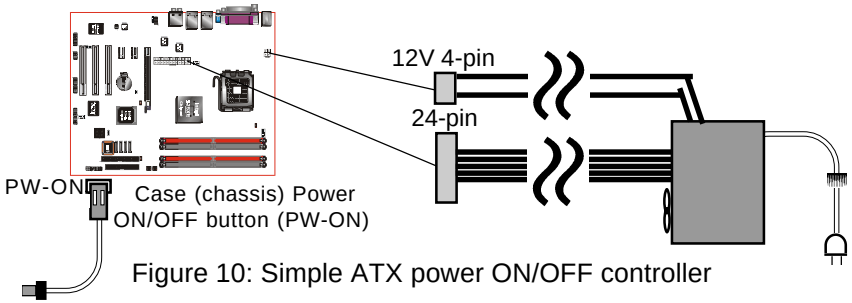


Figure 10: Simple ATX power ON/OFF controller

3-8 External Modem Ring-in Power ON and Keyboard Power ON Functions (KBPO)

Modem-Ring Power ON Function

The mainboard supports External Modem Ring-in Power ON function. Once you connect an external modem to COM1 or COM2, you can turn on the system through remote and host dial-up control.

Keyboard Power ON Function

The mainboard features a keyboard power on function to turn on the power supply using a keypress. Refer to the Power Management Setup in the BIOS setup section for details. To enable this feature, the BIOS default setting is Keyboard Hot Key (<Ctrl> + <F1>). To power off the system, use the Soft-OFF function under Windows XP/ME/2000/98. (refer to Windows online help).

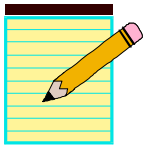
3-9 ACPI S3 (Suspend To RAM) Function

This mainboard supports the STR (Suspend To RAM) power management scheme by maintaining the appropriate power states in the RAM interface signals. The power source to the RAM is kept active during STR (ACPI S3). Advanced Configuration Power Interface (ACPI) provides many Energy Saving Features for operating systems that support Instant ON and QuickStart™ function.

1. To enable STR functionality to save system power :
   a. Install ACPI certified add-on cards (such as VGA, LAN, and modem cards).
   b. In BIOS, under Power Management Setup (refer to Section 4), select “ACPI Suspend Type: S3(STR)”. If you have a USB mouse or keyboard, set “USB Resume from S3” to “Enabled”.
   c. When in Windows, open the Control Panel Power Management application, and click the Advanced tab. In the Power buttons section, select “Stand By” from the drop-down lists.
2. To activate the STR function:
   a. Click the START button and choose Shut Down.
   b. In the Shut Down Windows dialog box, select the Stand By option to enter STR mode.

The following are the differences between STR power saving mode and Suspend (Power On Suspend) mode:

a. STR is the most advanced Power Management mode.
b. STR cuts all the power supplied to peripherals except to memory - max. power saving.
c. STR saves and keeps all on-screen data including any executed applications to RAM.
d. In STR mode, you must push the power button (connected to the onboard PW-On of CFP pin), click your USB mouse buttons, or press your USB keyboard keys to wake up your system to the last display.



Section 4
BIOS SETUP

Main Menu

The ROM BIOS contains a built-in Setup program which allows user to modify the basic system configuration and hardware parameters. The modified data is stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will stay unchanged unless there is a configuration change in the system, such as hard drive replacement or a device is added.

It is possible for the CMOS battery to fail causing CMOS data loss. If this happens you will need install a new CMOS battery and reconfigure your BIOS settings.

> The BIOS setup screen and description are for reference only, and may not exactly match what you see on your screen. The contents of BIOS are subject to change without notice. Please visit our website for BIOS updates.

To enter the Setup Program :

Power on the computer and press the <Del> key during the POST (Power On Self Test). The BIOS CMOS SETUP UTILITY opens. (Figure 1)

Figure 1: CMOS Setup Utility

The main menu displays all the major selection items. Select the item you need to reconfigure. The selection is made by moving the cursor (press any direction (arrow key) to the item and pressing the 'Enter' key. An on-line help message is displayed at the bottom of the screen as the cursor is moved to various items which provides a better understanding of each function. When a selection is made, the menu of the selected item will appear so that the user can modify associated configuration parameters.

4-1 Standard CMOS Setup

Choose "STANDARD CMOS FEATURES" in the CMOS SETUP UTILITY Menu (Figure 2). Standard CMOS Features Setup allows the user to configure system settings such as the current date and time, type of hard disk drive installed, floppy drive type, and display type. Memory size is auto-detected by the BIOS and displayed for your reference. When a field is highlighted (use direction keys to move the cursor and the <Enter> key to select), the entries in the field can be changed by pressing the <PgDn> or the <PgUp> key.

Figure 2: Standard CMOS Setup

Notes:

- If the hard disk Primary Master/Slave and Secondary Master/Slave are set to Auto, the hard disk size and model will be auto-detected.
- The "Halt On:" field is used to determine when the BIOS will halt the system if an error occurs.

4-2 Advanced BIOS Features

Selecting the “ADVANCED BIOS FEATURES” option in the CMOS SETUP UTILITY menu allows users to change system related parameters in the displayed menu. This menu shows all of the manufacturer’s default values for the board.

Pressing the [F1] key displays a help message for the selected item.

Figure 3: BIOS Features Setup

▶CPU Feature
This field is available only for Pentium® CPU with Prescott core.

▶Hard Disk Boot Priority
This item allows you to select the hard disk boot priority.

CPU L1 & L2 Cache
This controls the status of the processor’s internal Level One and Level Two cache. Options: Enables, Disabled.

CPU L3 Cache

This controls the status of the processor's internal Level Three cache.

Options: Enables, Disabled.

Hyper-Threading Technology

Enables the CPU Hyper-Threading Technology.

Options: Enables, Disabled.

> It is recommend to enable Hyper-Threading Technology on system with Windows XP and Linux 2.4 and disabling it for legacy OS.

First /Second/Third/Other Boot Device

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

Options: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-CDROM, LAN, Disabled.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices.

Options: Enabled, Disabled.

Boot Up Floppy Seek

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Options: Enabled, Disabled.

Boot Up NumLock Status

This controls the state of the NumLock key when the system boots. The default is On.

On: The keypad acts as a 10-key pad.

Off: The keypad acts like cursor keys.

Security Option

This category allows you to limit access to the System and Setup, or just to Setup. The default is Setup.

System The system will not boot and access to Setup will be denied unless the correct password is entered at the prompt.

Setup The system will boot, but access to Setup will be denied unless the correct password is entered at the prompt.

APIC Mode

This item allows you to enable APIC (Advanced Programmable Interrupt Controller) functionality. APIC is an Intel chip that provides symmetric multiprocessing (SMP) for its Pentium systems.

Options: Enabled, Disabled.

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

The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. Software resides on both the disk drive and the host computer. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.

Options: Enabled, Disabled.

Full Screen LOGO Show

This item allows you determine Full Screen LOGO display during POST.

Options: Enabled, Disabled.

4-3 Advanced Chipset Features

Choose the “ADVANCED CHIPSET FEATURES” option in the CMOS SETUP UTILITY menu to display following menu.

Figure 4: Chipset Features Setup

DRAM Timing Selectable

For setting DRAM Timing, select By SPD to follow Intel PC DDR SDRAM Serial Presence Detect Specification.

Options: Manual, By SPD.

CAS Latency Time

This item specifies the number of clock cycles needed after a Column Address Strobe (CAS) signal before data can be read.

Options: 2, 2.5, 3, Auto.

DRAM RAS# to CAS# Delay

This item sets the timing parameters for the system memory such as the CAS (Column Address Strobe) and RAS (Row Address Strobe).

Options: 2, 3, 4, 5, Auto.

DRAM RAS# Precharge

This item refers to the number of cycles required to return data to its original location to close the bank or the number of cycles required to page memory before the next bank activate command can be issued.

Options: 2, 3, 4, 5, Auto.

Precharge Delay (tRAS)

This item specifies the number of clock cycles needed after a bank active command before a precharge can occur (sets the minimum RAS pulse width.).

Options: Auto, 4 ~ 15.

System BIOS Cacheable

This item allows the system BIOS to be cached in memory for faster execution.

Options: Disabled, Enabled.

Video BIOS Cacheable

This item allows the video BIOS to be cached in memory for faster execution.

Options: Disabled, Enabled.

4-4 Integrated Peripherals

Figure 5: Integrated Peripherals

Marvell Lan Boot ROM

Enable/disable the onboard Marvell Lan Boot ROM.

Options: Enabled, Disabled.

▶PCI Express Function

Scroll to PCI Express Function and press <Enter>. The following screen appears:

PCI Express Slot 1/2

PCI-E device disabled function.

Options: Auto, Enabled, Disabled.

Marvell Lan1/Lan2 Device

Onboard PCI-E LAN device control function.

Options: Auto, Enabled, Disabled.

PCI-E Compliancy Mode

Allows you to select the PCI-E compliancy mode.

Options: V1.0a, V1.0.

User's Manual

Intel *i925XE* mainboard
for Intel Socket 775 processor

TRADEMARK

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