

# Chapter 1 Specification

## Introduction

This series of mainboards features an integration of the powerful Intel 775-pin Prescott CPU and the North Bridge Intel 865PE. The 775-pin Prescott CPU is a rapid execution engine providing 800/533MHz system bus, while North Bridge Intel 865PE is a high performance integrated chipset providing Dual Channel DDR 400/333/266 SDRAM memory interface, Hub interface as well as AGP 8x/4x interface.

Integrated with Intel 865PE, South Bridge Intel ICH5 supports the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial ATA interface, USB 2.0 interface, AC'97 2.2 (6-channel) Audio interface and the interrupt control. This chapter is to introduce to users every advanced function of this high performance integration.

**Topics included in this chapter are:**

**1-1 Mainboard Layout**

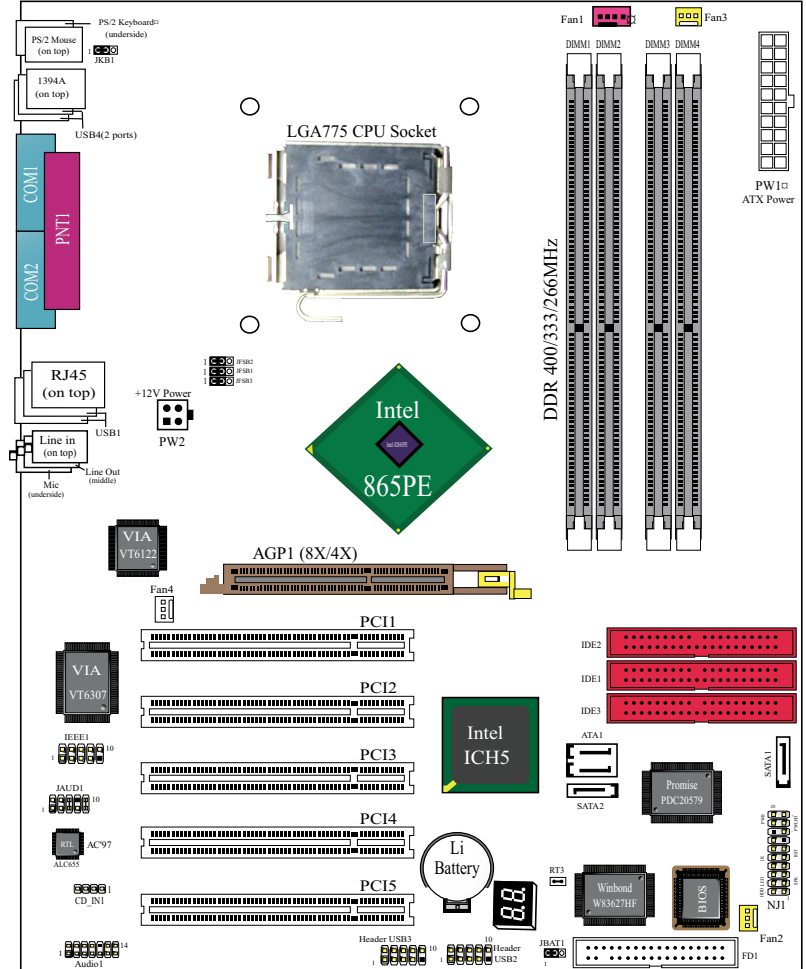
**1-2 Chipset Diagram**

**1-3 Mainboard Specification Table**

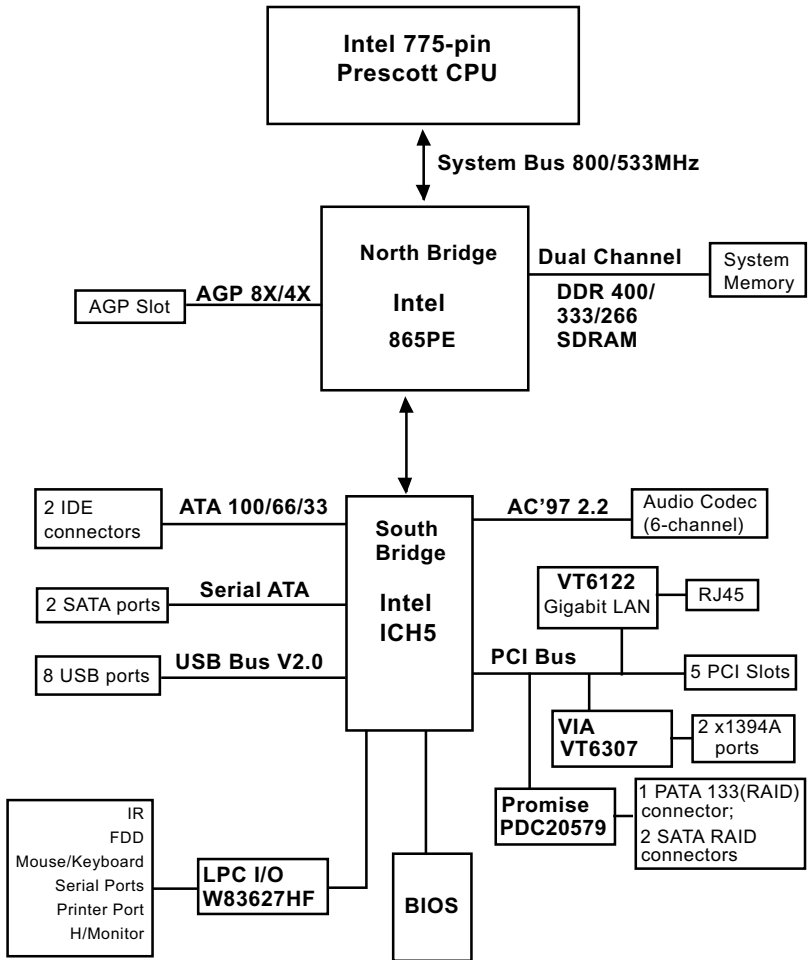
**1-4 Mainboard Specifications\*\***

**\*\* If any difference is found between the mainboard description and the Mainboard you are using, please look up the Errata/Update Slip enclosed inside for the correction or updated information, or else contact the mainboard Dealer or visit our Web Site for the latest manual update.**

# 1-1 SL-865Pro-775 Mainboard Layout



## 1-2 Chipset System Block Diagram



775-pin Prescott CPU + Intel 865PE + Intel ICH5 Diagram

**1-3 Mainboard Specification Table**

<b>SL-865Pro-775 Specifications and Features</b>	
CPU	Intel 775-pin Prescott CPUs
North Bridge	Intel 865PE, supporting 800/533MHz FSB
South Bridge	Intel ICH5
BIOS	AMI BIOS
Memory	Supporting Dual-channel DDR 400/333/266 SDRAM, up to 4GB in 4 DIMM slots
I/O Chip	W83627HF, with Hardware Monitor
AGP interface	AGP8X/4X Mode only; 1 AGP Slot on board
Audio	AC'97 Audio 2.2 compliant, 6 channel audio
IDE Interface	2 UATA 66/100 IDE ports; 1 UATA 133 IDE port
SATA Interface	2 SATA connectors; 2 SATA RAID connectors
PCI Slots	5 PCI Master slots on board
I/O Connectors	8 USB V2.0, 1 FDD port, 2 COM ports, 1 LPT, 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse
Networking	Gigabit Ethernet Controller VIA VT6122
Other common features	2x1394A ports for IEEE 1394A interface

## **1-4 Mainboard Specifications**

### **1-4.1 CPU Socket**

CPU Socket LGA 775 on board, supporting Intel® Pentium 4 775-pin Prescott processors(including Intel Hyper Threading CPUs) in 775-pin package for :

- 800/533MHz System Bus
- Hyper-pipelined technology -- Advanced dynamic execution;
- Rapid Execution Engine -- Streaming SIMD Extensions 2
- 128 Bit Enhanced Floating Point Unit -- Execution Trace Cache

### **1-4.2 System Chipsets**

North Bridge Intel 865PE:

- A high performance integrated chipset providing processor interface (including Hyper-Threading Technology), Dual channel DDR 400/333/266 SDRAM memory interface, Hub interface, AGP interface.
- Showing Hyper Threading Logo when booting with a Hyper-threading CPU.

South Bridge Intel ICH5:

- Supporting the LPC I/O, upstream Hub interface, PCI interface (including RAID, IEEE 1394 and GiGaLAN), IDE interface and USB 2.0 interface, AC'97 2.2 (6-channel) Audio interface and the interrupt control.

### **1-4.3 Memory**

4 DDR DIMM 184-pin slots on board :

- Supporting unregistered, non-ECC Dual-channel DDR 400/333/266 SDRAM up to 4GBs
- DIMMs to be populated in identical pairs for Dual-channel operation
- SPD (Serial Presence Detect) Scheme for DIMM Detection supported

### **1-4.4 AMI BIOS**

Flash Memory for easy upgrade, supporting BIOS Writing Protection, Year 2000 compliant, and supporting various hardware configuration during booting system (See Chapter 4 BIOS Setup):

- Standard BIOS Features(Times, Date, System Information etc.)
- Advanced BIOS Features (CPU,IDE, Floppy, Super I/O, Hardware Health, ACPI, USB, and Frequency/Voltage Control)
- Advanced Chipset Features (NorthBridge, SouthBridge Configuration)
- PCI/PNP Resource Management (IRQ Settings, Latency Timers etc.)
- Boot Configuration Setup (Boot Settings, Boot Device Priority etc.)
- BIOS Security Features (Supervisor Password, User Password)

### **1-4.5 Accelerated Graphics Port (AGP) Interface**

AGP Controller embedded on board, supporting:

- 1.5V (4x/8x) power mode only
- 8x 66MHz AD and SBA signalling, AGP pipelined split-transection longburst transfers up to 2GB/sec
- AGP 8X/4X supported, AGP V3.0 compliant

### **1-4.6 Advanced System Power Management**

- ACPI 1.0B compliant (Advanced Configuration and Power Interface), including ACPI suspend mode support (See ACPI Configuration of Advanced BIOS Features in BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- Supporting Wake On LAN
- Real Time Clock (RTC) with date alarm, month alarm, and century field

### **1-4.7 Multi-I/O Functions :**

- Serial ATA Controller integrated in ICH5, supporting:
  - 2x Serial ATA connectors supporting up to 150MByte/s transfer rate
- PCI EIDE Controller, supporting:
  - 2x UATA100/66/33 IDE connectors supporting up to 4 IDE devices
- Dedicated IR Functions:
  - Third serial port dedicated to IR function either through the two complete serial ports or the third dedicated port Infrared-IrDA (HPSIR) and ASK (Amplitude Shift Keyed) IR
- Multi-mode Parallel Data Transfer:
  - Standard mode, high speed mode ECP and enhanced mode EPP
- Floppy Disk Connector:
  - One FDD connector supporting 2 floppy drives with drive swap support
- Universal Serial Bus Transfer Mode:
  - USB V2.0 compliant; 480Mb/s USB Bus, supporting Windows 2000 or later operating system (no support for Windows 9X/ME)
  - 4 built-in USB connectors and 2 USB Headers which require 2 additional USB cables to provide 4 more optional USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
  - Two serial ports (COM1 & COM2) on board

### **1-4.8 Expansion Slots**

- 5 PCI Bus Master slots
- 1 AGP slot
- 4 DDR SDRAM DIMM slots

#### **1-4.9 Gigabit Ethernet Controller on board**

PCI local bus single-chip Gigabit Ethernet Controller VIA VT6122 on board:

- Supporting 10/100/1000Mb data transfer
- Supporting Wake On LAN function through the on-board RJ45 LAN Connector
- LAN Driver enclosed in Support CD for user's installation.

#### **1-4.10 Hardware Monitor on board**

- Hardware Monitor supported by W83627HF, providing monitoring and alarm for flexible desktop management of hardware voltage, temperatures and fan speeds.
- Utility Software Soltek Hardware Monitor for displaying system status is enclosed in Support CD for user's installation.

#### **1-4.11 AC'97 Audio Codec on board**

AC'97 Audio Codec 2.2 compliant on board

- Supporting 6-channel display of PCM audio output
- 6 channel audio consists of Front Left, Front Right, Back Left, Back Right, Center and Subwoofer for complete surround sound effect
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation.

#### **1-4.12 Serial ATA Interface integrated**

- 2 SATA connectors supported by ICH5 for two SATA Hard Disk setup
- 2 SATA connectors supported by Promise PDC20579 for two SATA RAID hard Disks setup
- SATA interface supports transfer speed up to 150MB/sec.

#### **1-4.13 Parallel ATA Interface integrated**

- 1 Parallel ATA connector supported by Promise PDC20579 for two IDE RAID Hard Disks setup, transfer speed up to 133MB/sec.

#### **1-4.14 IEEE 1394A Interface**

- PCI-bus based open host controller, compliant with IEEE 1394a standard for high performance serial bus
- Supporting 400/200/100 Mbits transfer rate
- 2 IEEE 1394A ports supported by IEEE1394A controller VT6307

#### **1-4.15 Form Factor**

- ATX Form Factor, ATX Power Supply, version 2.03 compliant, supported by one Main Power Connector, one +12V Power Connector.
- Mainboard size: 305mm x 245mm

# *Memo*