

# Chapter 1 Specification

## Introduction

This mainboard features an integration of the powerful AMD processors Athlon/Athlon XP/Duron and the North Bridge nVIDIA nFORCE2 IGP plus South Bridge nFORCE2 MCP-T, with which the whole system performance supports 400/333/266/200MHz system bus.

nVIDIA nFORCE2 IGP plus nFORCE2 MCP-T supports on-board AMD processors to implement the 400/333/266/200 MHz Front Side Bus, the AGP 8X/4X interface, the integrated GeForce4 MX Graphics port, the LPC Super I/O, the Dual Channel DDR 333/266 MHz SDRAM, the audio processing unit (APU) with Dolby Digital Interactive Content Encoder, the 6-channel AC'97 Audio interface, the USB 2.0 interface, the IEEE 1394 interface and ATA 133/100/66 data transfer rate. 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 Mainboard Specifications\*\***

**1-3 Mainboard Specification Table**

**1-4 Chipset System Block Diagram**

**\*\* If any difference is found between this manual 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.**



## **1-2 Mainboard Specifications**

### **1-2.1 CPU Socket**

CPU Socket 462 (Socket A) on board, supporting AMD Athlon, Athlon XP and Duron processors and implementing 400/333/266/200MHz system bus

### **1-2.2 System Chipsets**

North Bridge nVIDIA nFORCE2 IGP:

- Managing and supporting 400/333/266/200MHz system Bus, AGP 8X/4X interface, integrated GeForce4 MX graphics accelerator and DDR 333/266MHz Memory Interface

South Bridge nVIDIA nFORCE2 MCP-T

- Working with North Bridge nFORCE2 IGP supporting the HyperTransport, LPC Super I/O, PCI interface, ATA133 interface, LAN interface, USB V2.0 interface, IEEE 1394 interface, Audio Processing Unit(APU) as well as AC'97 Audio 6-channel interface

### **1-2.3 Memory**

2 DDR DIMM 184-pin slots on board :

- Supporting unregistered, non-ECC Dual-channel DDR 333/266/200 SDRAM up to 2GB with 2 DDR DIMM slot, and 1GB single-channel DDR SDRAM with 1 DDR DIMM slot
- Dual Channel supporting only same volumes and same types of DDR SDRAM modules

### **1-2.4 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 CMOS Features (Times, Date, Hard Disk Type etc.)
- Advanced BIOS Features (Virus Protection, Boot Sequence etc.)
- Advanced Chipset Features (AT Clock, DRAM Timing etc.)
- Power Management Features (Sleep timer, Suspend Timer etc.)
- PNP/PCI Configurations (IRQ Settings, Latency Timers etc.)
- Integrated Peripherals (Onboard I/O, IRQ, DMA Assign. etc.)
- SmartDoc Anti-Burn Shield (CPU/System Temp., Fan speed etc.)
- CPU Ratio/Voltage Control (Voltage of CPU, DIMM, AGP etc.)

### **1-2.5 Integrated GeForce4 MX GPU**

GeForce4 MX GPU is embedded on board, supporting:

- 256-bit 3D and 2D graphics accelerator
- nView Dual-Display architecture supporting any combination of desktop VGA monitors and TV sets
- Integrated NTSC/PAL TV Encoder supporting resolutions up to 1024x768
- Two VGA connectors on board for analog display, supported by DDR SDRAM up to 333MHz

### **1-2.6 AGP Interface**

- 1.5V(8X/4X) power mode only, 1 AGP Slot supported, supported by DDR SDRAM up to 333MHz
- 8X 66MHz AD and SBA signaling; AGP pipelined split-transaction long burst transfers up to 2GB/sec.
- AGP 8X/4X supported, AGP V3.0 compliant

### **1-2.7 Advanced System Power Management**

Advanced Configuration and Power Interface incorporated in BIOS for reducing power consumption :

- ACPI 1.0B compliant (Advanced Configuration and Power Interface), including ACPI Suspend mode support (See Power management of BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- Keyboard/Mouse Power On / Wake Up
- Real Time Clock with date alarm, month alarm, and century field

### **1-2.8 Multi-I/O Functions**

- PCI EIDE Controller, supporting:
  - 2 ATA 133 / 100 / 66 IDE connectors supporting up to 4 IDE devices
- Dedicated IR Functions:
  - 1x5 IR connector dedicated to IR function with 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 Drive Connector:
  - 1 FDD connector supporting 2 floppy drives with drive swap support
- Universal Serial Bus Transfer Mode:
  - USB V2.0 compliant, 480 MB/s USB Bus, supporting Win2000 / XP.
  - 2 built-in USB connectors and 2 more USB pin-headers which require 2 additional USB cables to provide 4 more USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
  - 2 complete serial ports (COM1 & COM2) on board

### **1-2.9 Expansion Slots**

- 1 PCI Bus Master slot
- 1 AGP 8X/4X slot
- 2 DDR DIMM slots

### **1-2.10 Integrated APU and AC'97 Audio Codec on board**

Integrated Audio Processing unit and AC'97 Audio Codec on board

- Supporting up to 6 channels of PCM audio output
- Dolby Digital Interactive Content Encoder in real time
- 6-channel audio consisting of Front Left, Front Right, Back Left, Back Right, Center and Sub-woofer for complete surround sound effect
- Audio Driver enclosed in Support CD for user's installation

### **1-2.11 Hardware Monitor on board**

- Hardware Monitor supported by LPC I/O W83627HF, providing monitoring functions on hardware voltage, temperatures and fan speeds.
- Utility Software Soltek Hardware Monitor for displaying monitor status is enclosed in Support CD for user's installation.

### **1-2.12 IEEE 1394A OHCI Controller on board**

IEEE 1394A OHCI Controller integrated in nFORCE2 MCP-T

- Fully compliant with 1394 specification release 1.1 OHCI
- Interoperable with FireWire and iLink Implementations of IEEE 1394
- Supports asynchronous and isochronous transfers
- Independent DMA controllers for asynchronous and isochronous operations.

### **1-2.13 LAN Controller on board**

Fast Ethernet Controller integrated in nFORCE2 MCP-T and nFORCE2 Ethernet MAC:

- Supporting 10/100Mb Fast Ethernet Base T LAN
- LAN Driver enclosed in Support CD for user's installation

### **1-2.14 Front Panel Audio-out Connector**

- 1 Front Panel Audio-out connector supporting Front Panel S/PDIF Output, Front Panel Mic-In and Front Panel Line-In
- This Front Panel Audio-out requiring an S/PDIF Audio Cable to connect itself to Front Panel Audio Connectors

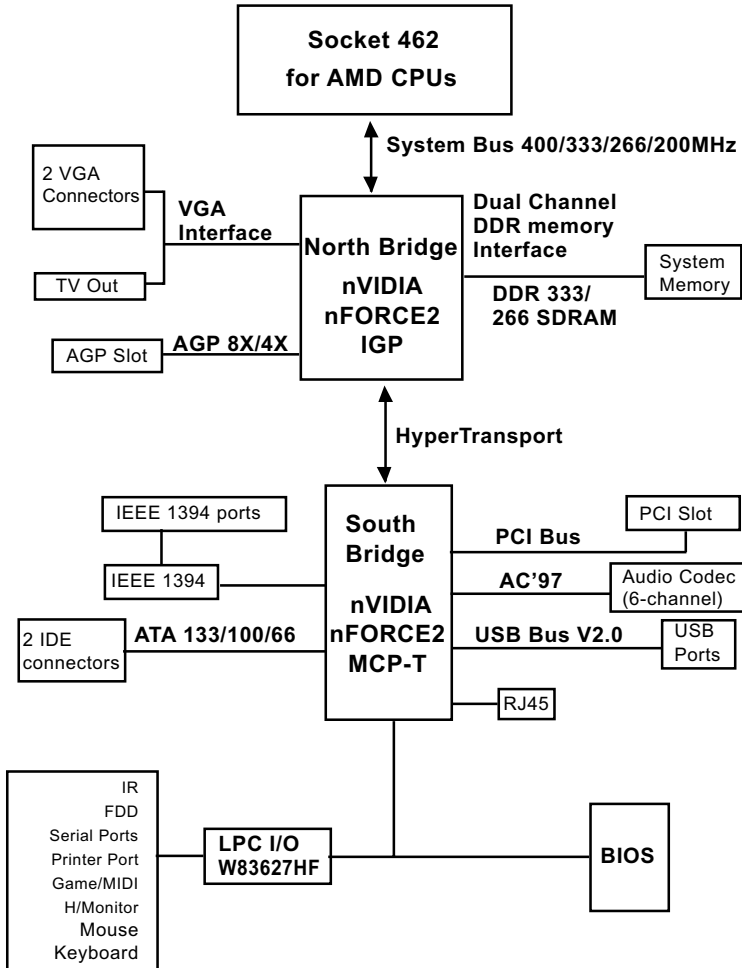
### **1-2.15 Form Factor**

- ATX Form Factor, ATX Power Supply
- Mainboard size: 180mm x 255mm

**1-3 Mainboard Specification Table**

<b>SL-B7A-F Specifications and Features</b>	
CPU	Socket 462 for AMD Athlon, Athlon XP, Duron CPU
North Bridge	nFORCE2 IGP, 400/333/266/200MHz FSB
South Bridge	nFORCE2 MCP-T
BIOS	Award BIOS
Memory	Dual Channel DDR 333/266 SDRAM, up to 2GB in 2 DDR DIMM slots
I/O Chip	Winbond W83627HF with Soltek HM
AGP interface	AGP 8X/4X mode only; 1 AGP Slot on board
Audio	Integrated APU and AC'97 Audio Codec with Dolby Digital 5.1 encoding and connectors
IDE Interface	2 ATA 133/100/66 IDE Connector
VGA	GeForce4 MX integrated in nFORCE2 IGP supporting Dual View
PCI Slots	1 PCI Master slot on board
I/O Connectors	6 USB V2.0, 1 FDD port, 2 COM ports(1 optional), 1 LPT(optional), 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse, 2 1394a ports, 1 S-Video out
IEEE 1394 Interface	Integrated 1394 controller in nFORCE2 MCP-T
Networking	Integrated LAN Controller in nForce2 MCP-T and Connector RJ45
Other Common Features	Keyboard/Mouse Power On / Wake Up

### 1-4 Chipset System Block Diagram



Socket 462 + nVIDIA nFORCE2 IGP + nVIDIA nFORCE2 MCP-T Diagram