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CHAPTER 1: INTRODUCTION

1.1 MOTHERBOARD FEATURES

A. Hardware

CPU

- Supports Socket 939.
- Supports AMD Athlon 64 / Athlon 64 FX /Sempron processors.
- Supports Dual Core CPU.
- Supports Maximum Front Side Bus up to 2G HT.
- AMD 64 architecture enables simultaneous 32 and 64 bit computing.
- Supports HyperTransport and AMD Cool'n'Quiet Technologies.

Chipset

- NVIDIA nForce4 (NF4-A9 A)/ nForce4 Ultra (NF4 Ultra-A9 A):
 - Supports NVIDIA Firewall.
 - Supports 10 USB 2.0 ports.
 - Supports NVIDIA nTune Utility.
 - Supports 1 PCI-Express x16 interface graphics slot.
 - Supports 4 SATA ports, each channel up to 1.5Gb/s (NF4-A9 A) / 3.0Gb/s (NF4 Ultra-A9 A).
 - Supports 4 IDE disk drives with PIO Mode 5, Bride Mode and Ultra DMA 33/66/100/133 Bus Master Mode.
 - Compliant with AC'97 version2.3 specification.
 - Compliant with PCI-Express Version 1.a specification.

Dimensions

- ATX Form Factor: 20.8cm (W) x 29.35cm (L)

Operating Systems

- Supports Windows 2000 and Windows XP.
- Note:** Do not support Windows 98SE and Windows ME.

Main Memory

- Supports Dual Channel DDR.
- Supports DDR266/333/400.
- Maximum memory size is 4GB.

DIMM Socket Location	DDR Module	Total Memory Size
DIMM1	128MB/256MB/512MB/1GB *1	Max is 4 GB.
DIMM2	128MB/256MB/512MB/1GB *1	
DIMM3	128MB/256MB/512MB/1GB *1	
DIMM4	128MB/256MB/512MB/1GB *1	

MSNV-939

On-board IDE

- 2 on-board connectors support 4 IDE disk drives.
- Supports PIO mode 0~4.
- Supports Ultra DMA 33/66/100/133 bus master mode.

Serial ATA

- 4 on-board Serial ATA connectors support 4 serial ATA (SATA) ports.
- nForce4 Ultra supports SATA 2.0 specification, with data transfer rates up to 3Gb/s.
- nForce4 supports SATA 1.0 specification, with data transfer rates up to 1.5Gb/s.

Slots

- Four 32bit PCI bus master slots.
- Two PCI-Express x1 slots:
 - PCI Express 1.0a compliant.
 - Bandwidth 250MB/s per direction.
- One PCI-Express x16 slot.
 - PCI Express 1.0a compliant.
 - Maximum theoretical realized bandwidth of 4GB/s simultaneously per direction, for an aggregate of 8GB/s totally.

Super I/O

- Chip: ITE IT8712F.
- Low Pin Count Interface.
- Provides the most commonly used legacy Super I/O functionality.
- Environment Control initiatives,
 - H/W Monitor
 - Fan Speed Controller
 - ITE's "Smart Guardian" function

On-board AC'97 Audio Sound Codec

- Chip: ALC655:
 - Compliant with AC'97 version2.3 specification.
 - Supports 6 channels audio output.

10/100 LAN PHY

- PHY: RTL8201CL.
- Half/Full duplex capability.
- Supports ACPI, PCI power management.

