Chapter 1

INTRODUCTION

The ATX IR1 mainboard is a high-performance personal computer mainboard based on the AMD® Athlon™ processor with 3DNOW™. The AMD® Athlon™ processor is the newest microprocessor in the AMD K86™ family of microprocessors.

The mainboard uses the highly integrated AMD® 751 system controller and AMD® 756 peripheral controller. The AMD® 751 system controller features: the S2k system interface supports a 100Mhz clock and double-data rate (DDR) transfers, the 33MHz 32-bit PCI bus interface supports up to five masters, the 66MHz AGP 1.0 compliant interface supports 2x data transfer mode, and High Speed memory designed to support a 100MHz SDRAM (PC-100-compatible-DIMM) with serial presence detect(PSD). The AMD® 756 peripheral bus controllers feature an integrated ISA bus controller, an enhanced IDE controller with Ultra DMA-66 support, and a keyboard/mouse controller.

The ATX IR1 mainboard is our first system board to implement the AMD® 750 chipset (AMD® 751 and AMD® 756), which supports a single Slot A for AMD® Athlon™ processor.

1.1 Mainboard Features

CPU
- Slot A for AMD® Athlon™ processor.
- Support 500MHz, 550MHz, 600MHz, or higher processor

Chipset
- AMD® Irongate™ chipset. (Northbridge)
  - 200MHz EV6 System Interface speed
  - 100MHz SDRAM
  - 1x/2x AGp
  - Status - Silicon currently in bring-up
- AMD® 756™ (Viper) chipset. (Southbridge)
  - OHCI USB
  - APIC
  - ACPI Power Management

Front Side Bus (FSB)
- 100MHz clock is supported.

Main Memory
- Supports three memory banks using three 168-pin unbuffered DIMM sockets.
- Supports a maximum memory size of 768MB for SDRAM.
- Supports 3.3v PC100 SDRAM DIMM.

Slots
- One AGP (Accelerated Graphics Port) slot.
  - AGP specification compliant
  - AGP 66/133MHz 3.3v device support
- Five 32-bit Master PCI Bus slots and two 16-bit ISA bus slots (wherein one PCI/ISA is shared)
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE
- An IDE controller on the AMD® 756™ Viper chipset provides IDE HDD/ CD-ROM with PIOand Ultra DMA/66 operation modes.
- Can connect up to four IDE devices.

On-Board Peripherals
- On-Board Peripherals include:
  - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
  - 2 serial ports (COMA + COMB)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 4 USB ports
  - 1 IrDA connector for SIR.

BIOS
- The mainboard BIOS provides "Plug & Play" BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface(DMI) function which records your mainboard specifications.
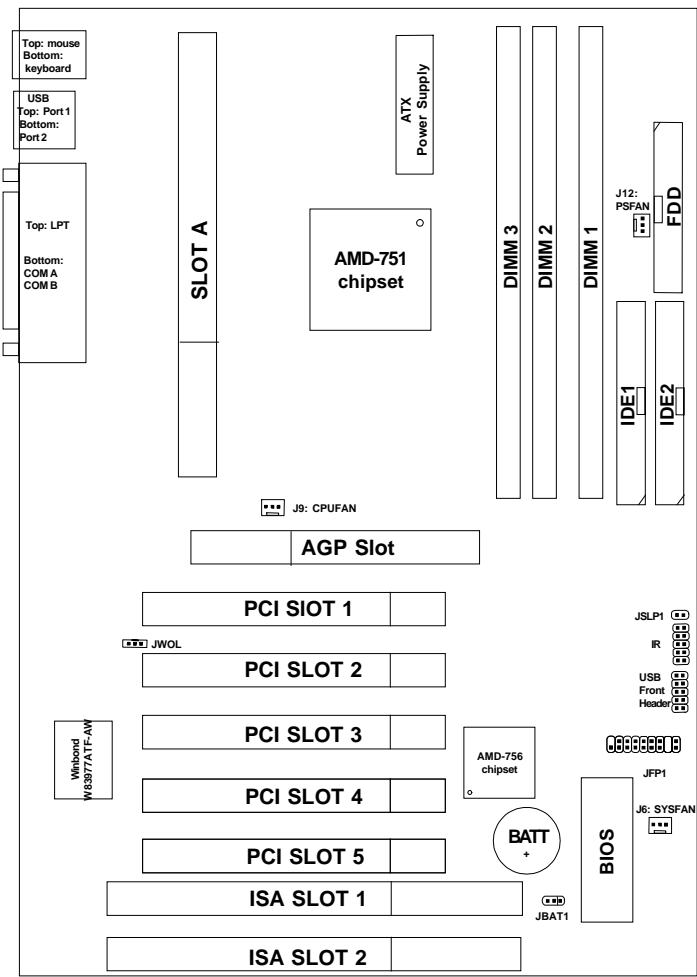
Dimension
- ATX Form Factor: 20.9cm x 30.5cm

Mounting
- 8 mounting holes.

1.2 Mainboard Layout

Top: mouse
Bottom:
keyboard

USB
Top: Port 1
Bottom:
Port 2

Top: LPT

Bottom:
COM A
COM B

ATX
Power Supply

J12:
PSFAN

FDD

SLOT A

AMD-751
chipset

DIMM 3

DIMM 2

DIMM 1

IDE1

IDE2

J9: CPUFAN

AGP Slot

PCI SIOT 1

JWOL

PCI SLOT 2

JSLP1

IR

USB
Front
Header

Winbond
W83977ATF-AW

PCI SLOT 3

PCI SLOT 4

AMD-756
chipset

JFP1

J6: SYSFAN

PCI SLOT 5

BATT
+

BIOS

ISA SLOT 1

JBAT1

ISA SLOT 2

MS-6167 ATX IR1 Mainboard