## Chapter 1

# Introduction

## 1-1 Product Specifications

❏ **Processor**

- Supports AMD Socket A processors
- 100MHz DDR (Double Data Rate) transfer on K7 CPU address and data buses
- High efficiency switching power modules provides 1.6v for Vcc and up to 40A for Icc

❏ **Chipset**

- VIA Apollo KT133 (VT8363/686A) or (VT8363/686B support ATA 100) two chip AGPset

❏ **DRAM Memory**

- Three 3.3V 168-pin DIMM sockets support up to 1.5GB
- Supports PC-100, PC-133 SDRAM
- Provides single-bit ECC capability

❏ **Expansion Slots**

- One AMR slot (Rev 1.0 compliant) for cost effective soft modem riser
- One 32-bit AGP slot for both 2x/4xAGP at 3.3v or 1.5v (Rev 2.0 compliant)
- Five 32-bit PCI slots (Rev 2.2 compliant)
- Optional One 16-bit ISA slot (with sharing slot)

❏ **2Mb Boot-Block Flash ROM**

- Award System BIOS, supports PnP, APM, DMI, ACPI & Multi-device booting features i.e. floppy, LS120, CD-ROM, HDD(IDE, SCSI), ZIP-ATAPI etc.
- Includes Trend **ChipAway Virus** protection for virus-free boot and virus free operating system
- **BIOS Wonder** technology including ChipAway Virus, Flash BIOS Write Protect, Embedded Flash Utility, Built-in HDD Instant Recovery utility
- Optional **TwinBIOS** technology for security and management.

❏ **Embedded Ultra DMA PCI IDE controller**

- Supports two IDE ports up to 4 ATAPI devices
- Supports up to PIO Mode 4 up to 16.6MBps, Multi Word Mode 4 up to 66MBps with bus mastering
- Bus Master software drivers for all common multi-task operating systems
- Optional VIA 686B ATA-100 support up to Multi Word Mode 5

❏ **Embedded Super I/O Functions**
- Two UARTs support two serial ports and IR function for HPSIR and ASKIR
- One parallel supports SPP/ECP/EPP
- One floppy disk drive connector supports up to 2.88MB, Japanese 3- Mode and 1Mbps transfer rate
- Supports Game/MIDI port for soft-audio

❏ **Double Stack Back-Panel I/O Connectors with PC99 Colored Codes**
- PS/2 Mini-DIN keyboard and mouse ports
- Two Channel USB ports
- Two D-SUB 9-pin male serial port
- One D-SUB 25-pin female Printer port
- One D-SUB 15-pin female Game/MIDI port
- Audio Line-out, Line-in, Mic-in jacks

❏ **Embedded PCI Audio Subsystem**
- Built-in Sample Rate Converter to ensure all internal operation at 48KHz
- Full-duplex operation for simultaneous recording and playback
- Built-in FM-emulation music synthesizer
- With external high quality AC`97 ..CODEC provides 90dB+ SNR CD quality audio
- Using wavetable data on the system memory
- Hardware SoundBlaster Pro for Windows DOS box and real-mode DOS legacy compatibility
- Complete software driver support for Win95/98/NT

❏ **Optional PCI Audio Subsystem**
- CMedia 8738 audio chip  w/ legacy audio SB16/Pro compatible
- Advanced 64-Voice Wavetable synthesizer
- Programmable independent sample rate from 4KHz to 48KHz for recording and playback
- Full-duplex operation for simultaneous recording and playback
- Supports MS DLS  (Downloadable sample)  level-1 technology with  limitless variety of instrument samples using PC RAM
- Up to 8MB wavedata provides 128 GM, GS and WT-32 compatible instruments and 10 drum kits
- Supports HRTF 3D positional audio with MSDS, DS3D, DirectMusic, Aureal A3D and Creative EAX (Environment Audio Extensions) APIs
- 4-Channel speaker audio support is easy to build up a Home Theater environment
- Optional  supports 24-bit S/PDIF-in/out for digital audio (i.e. compressed AC3 data)
- Supports Fiber Optic module for Internet music, PC, and MD connections
- Supports MIDI and dual game ports
- Embedded 32OHM .5w earphone amplifier

❒ **Optional Embedded Graphic Accelerator**
- **Integrated 128-bit S3 Savage4** 2D/3D graphics engine
- Floating point triangle setup engine w/ 8 MTps setup engine and 140MPps trilinear fill rate
- Optimized Shared Memory Architecture (SMA) supports 2 to 32MB frame buffer using system memory
- Supports AGP 4x, including sideband addressing and execute mode
- Supports up to 1920x1440 resolution
- Motion Video compensation for full speed DVD playback
- With TV encoder or TMDS Transmitter, to support DFP monitor and NTSC/PAL TV
- Supports 12-bit digital interface with up t o1280x1024 resolution DFP

❒ **Embedded USB Controller**
- USB host controller (UHCI v1.0 compliant) with Root Hub
- Four USB ports with over-current protection
- \* Optional USB riser with 2 additional USB ports

❒ **Embedded System Monitoring Hardware Subsystem**
- 5 external voltage inputs for CPU VDD, Vcc, +12v, +5v and 3.3v (internal detecting)
- 2 temperature sensor with thermistor for CPU & System
- 2 Fan speed (CPU and System) monitoring and control with ON/OFF control in suspend

❒ **Board Dimensions**
- Standard ATX form factor, 305mm x 220mm, 4 Layers

☐ **Switching Power Supply Requirement**

| Output Voltage | Max. Regulation Requirement | Min. Current Requirement (Amps) |
|:---:|:---:|:---:|
| +12V | +/- 5% | 5.5 |
| +5V | +/- 5% | 20 |
| +3.3V | +/- 5% | 15 |
| -5V | +/- 10% | 0.5 |
| -12V | +/- 10% | 0.5 |
| **+5VSB** | **+/- 5%** | **0.75** |

**Table 1-1**

3.3Vat 15Amps is necessary to guarantee full loading operation because some AGP cards and memory modules have high current consumption.

## 1-2 Product Feature

- Innovative SeePU technology for jumperless CPU installation
- Superior Overclocking capability with up to 150MHz frequency
- Complete CPU protection with OVT (Over Voltage Protect) and OCP (Over Current Protect) technology
- Complete Data Security:
  * **Flash BIOS write protection** against unauthorized access
  * **Trend ChipAway Virus** for a 100% virus free system boot-up
  * **Embbeded Flash Utility** to ease BIOS upgrade and eliminate in compatibility with the flash utility version.
  * **Embedded HDD Instant Recovery** to protect against system crash.

- Advanced Management Features**:**
  * Power-on events:
    WOL(Wake-on-LAN) network card, Modem ring, RTC Alarm
  * Software power-off control for Win95
  * Over-ride power button
  * Three states advanced Power-failure recovery: Always On, Always Off, Last state
  * Chassis intrusion detection with mnemonics during power loss
  * Blinking Power-LED in suspend

# 1-3 Package Contents

This product comes with the following components:

❐ One mainboard

❐ One 40-pin(80-wire) UDMA-66/100 IDE connector ribbon cable (Figure 1-1)
   **\* Color coded connection for UDMA-66/100 cable**
      Blue to mainboard, Gray to Master and Black to slave

❐ One 34-pin floppy disk drive ribbon cable (Figure 1-2)

❐ One User's Manual

❐ One CD-ROM that includes

   -- Acrobat Reader
   - Award Flash EPROM Utility
   - Award DMI Utility for DOS
   - VIA Service Pack for Win9x/WinNT including Bus Master IDE drivers,
     AGP VxD and etc.
   - VIA Sound Driver for DOS/Win95/98/NT
   - Optional S3 AGP Driver for Win95/98/NT
   - CMedia audio drivers for Win3.1, Win95/98/2000, NT4.0 and Linux
   - CMedia Multimedia Decks
   - Optional **Value Pack 2001** software group including Norton AntiVirus,
     AutoSave, ADOBE ActiveShare, Acrobat Reader, Imagemore, X-stop,
     Appio and Ewalla.

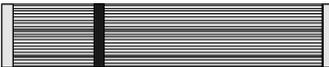**Figure 1-1**   UDMA-66/100 IDE cable

**Figure 1-2**   Standard Floppy cable

# *Memo*