

# Chapter 1

## Introduction

### 1-1 Product Specifications

#### ❑ Processor

- Supports AMD Socket A processors up to 1.2GHz
- 100MHz DDR (Double Data Rate) transfer on K7 CPU address and data buses
- High efficiency switching power modules up to 40A

#### ❑ Chipset

- VIA Apollo KT133 (VT8363 or VT8363E/686A) or (VT8363 or VT8363E/686B support ATA 100) two chip AGPset

#### ❑ DRAM Memory

- Two 3.3V 168-pin DIMM sockets support up to 1GB
- Supports PC-100, PC-133 SDRAM, and VCM

#### ❑ Expansion Slots

- Four 32-bit PCI slots (Rev 2.2 compliant)

#### ❑ 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 **Hard Disk Backup firmware**

#### ❑ 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
- One D-SUB 9-pin male serial port
- One D-SUB 25-pin female Printer port
- One D-SUB 15-pin female Vga port
- One D-SUB 15-pin female Game/MIDI port
- Audio Line-out, Line-in, Mic-in jacks

❑ **Embedded PCI Audio Subsystem**

- CMedia 8738 audio chip w/ legacy audio SB16/Pro compatible
- Programmable independent sample rate from 4KHz to 48KHz for recording and playback
- Full-duplex operation for simultaneous recording and playback
- DLS-based wavetable music synthesizer w/ maximum 32 simultaneous notes, supports MS DirectMusic (Wavetable technology licensed from ERSO w/ General MIDI 128 sounds, 8 drum kit)
- 32-voice HRTF 3D positional audio, CRL 3D supports MS DirectSound3D, Aureal A3D and Creative EAX(Environment Audio Extensions) APIs
- 4-Channel speaker audio support is easy to build up a Home Theater environment
- Supports MIDI and dual game ports
- Embedded 32OHM .5w earphone amplifier
- PCI V2.1 compliant and full Legacy DOS software compatible
- Supports Fiber Optic module for Internet music, PC, and MD connections

❑ **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 Vcore, Vdd, +12v, +5v and 3.3v (internal detecting)
- 2 temperature sensor with thermistor for CPU & System
- 2 Fan speed (CPU and System) monitoring

### □ Onboard 128-bit AGP VGA Controller

- RIVA TNT2 M64 with 128-bit 3D processor that processes 2 pixels-per-clock cycle enabling single-pass multi-texturing
- Supports 4x/2x interface with full sideband
- Optimized Direct3D acceleration with complete support for DirectX 5.0 and 6.0
- 32-bit ARGB rendering with destination alpha
- Video acceleration for DirectShow, MPEG-1, MPEG-2 and Indeo
- 300MHz (250MHz for Vanta) palette DAC
- Supports Digital Flat Panel interface with scaling and filtering for flat panels up to 1280x1024
- Supports NTSC and PAL digital output

\* 16/32MB SDRAM for video buffer w/ 2/4x16 SDRAM x 4

16M	2x32	x2
32M	2x32	x4
32M	4x16	x4

### □ Onboard 128-bit AGP VGA Controller(Optional)

- Chrontel CH7004 for TV-out
- Supports NTSC, NTSC-EIA(Japan), and PAL (B,D,G,H,I,M and N) TV formats
- Full vertical and horizontal underscan capability and operates in 5 different resolutions including 640x480 and 800x600 with very high quality video
- Dual independent TV and 16bpp monitor display using programmable timing generators in master mode
- Provides Composite, S-video and SCART outputs
- Auto TV presence detection
- Sil 154 TMDS encoder transmitter
- Scaling and filtering for panels up to 1280x1024

### □ Board Dimensions

- Micro ATX form factor, 244mm 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
<b>+5VSB</b>	<b>+/- 5%</b>	<b>0.75</b>

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

- Poly-fuse over-current protection with error warning for keyboard circuitry
- Complete Data Security:
  - \* **Flash BIOS write protection** against unauthorized access like CIH virus
  - \* **Trend ChipAway Virus** to ensure virus-free booting procedure
  - \* **Embbded Flash Utility** ease the upgrade way and solve the incompatibility between flash type and flash utility
- 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
  - \* FAN power-off control in suspend

## 1-3 Package Contents

This product comes with the following components:

- One mainboard
- One 40-pin Ultra DMA-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
  - 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***