

Chapter 1

Introduction

1-1 Product Specifications

□ Processor

- Supports AMD Socket A processors up to 950MHz
- 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 42A for Icc

□ Chipset

- VIA Apollo KT133 (VT8363/686A) or (VT8363/686B 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
- Provides single-bit ECC capability

□ Expansion Slots

- One 32-bit AGP slot for both 2x/4xAGP at 3.3v or 1.5v (Rev 2.0 compliant)
- Three 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.

□ Embedded Ultra DMA-66 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**

- CMedia 8738 **audio chip w/ integrated CODEC legacy audio SB16/Pro compatible**
- Programmable independent sample rate from 4KHz to 48KHz for record 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
- Supports 24-bit S/PDIF-in/out for digital audio (for ex. compressed AC3 data)
- 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)
- 1 temperature sensor with thermistor for System
- 2 Fan speed (CPU and System) monitoring

❑ Optional Embedded Graphic Accelerator(for 7AIV only)

- **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/PALTV
- Supports 12-bit digital interface with up to 1280x1024 resolution DFP

❑ 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
+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

- Poly-fuse over-current protection with error warning for keyboard circuitry
- Complete Data Security:
 - * **Flash BIOS write protection** against unauthorized access
 - * **Trend ChipAway Virus** for a 100% virus free system boot-up
 - * **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

1-3 Package Contents

This product comes with the following components:

- One mainboard
- One 40-pin Ultra DMA-66 IDE connector ribbon cable (Figure 1-1)
 - * **Color coded connection for UDMA/66 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 2000** software group including Shepherd2000, Trend PC-cillin, Norton AntiVirus, ADOBE ActiveShare, Appio and X-stop



Figure 1-1 UDMA66 IDE cable

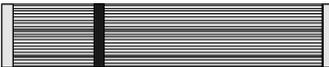


Figure 1-2 Standard Floppy cable

Memo