

## G4V509-P

### Intel® 845GV Socket 478 microATX System Board

#### PROCESSOR

- Intel® Pentium® 4 (Prescott and Northwood) processor up to 3.2GHz+
  - Intel Hyper-Threading Technology
  - FSB: 400MHz and 533MHz
- Intel® Celeron® processor
  - 400MHz system data bus

#### CHIPSET

- Intel® 845GV chipset
  - Intel® 845GV B1 stepping Graphics Memory Controller Hub (GMCH)
  - Intel® 82801DB I/O Controller Hub (ICH4)

#### SYSTEM MEMORY

- Two 184-pin DDR SDRAM DIMM sockets
- 2.5V unbuffered PC1600 (DDR200), PC2100 (DDR266) or PC2700 (DDR333) DDR SDRAM DIMM
- Supports maximum of 2GB system memory using 64Mbit, 128Mbit, 256Mbit or 512Mbit technology
  - Double-sided x16 DDR SDRAM DIMM is not supported

#### BIOS

- Award BIOS, Windows® 98SE/2000/ME/XP Plug and Play compatible
- Supports SCSI sequential boot-up
- Flash EPROM for easy BIOS upgrades
- Supports DMI 2.0 function
- 4Mbit flash memory

#### ENERGY EFFICIENT DESIGN

- Supports ACPI specification and OS Directed Power Management
- Supports ACPI STR (Suspend to RAM) function
- Wake-On-Events include:
  - Wake-On-PS/2 Keyboard/Mouse
  - Wake-On-USB
  - Wake-On-LAN
  - RTC timer to power-on the system
- System power management supported
- CPU stopped clock control
- Hardware supports SMI green mode
- Microsoft®/Intel® APM 1.2 compliant
- Soft Power supported - ACPI v2.0 specification
- AC power failure recovery

#### DAMAGE FREE INTELLIGENCE

- Monitors CPU/chassis temperature and overheat alarm
- Monitors 5VSB(V)/VBAT(V)/1.5V/3.3V/5V/±12V/CPU(V) voltages and failure alarm
- Monitors CPU/chassis/2nd fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Opened chassis alarm
- Watchdog timer function

#### ONBOARD GRAPHICS FEATURES

- Graphics memory
  - Shares 512K/1MB/8MB of the system memory in DOS mode
  - Uses Dynamic Video Memory Technology (DVMT) in Windows mode
- Graphics controller
  - Core frequency of 200MHz
  - 350MHz integrated 24-bit RAMDAC
  - Analog display up to 2048x1536 @ 60Hz refresh
  - 3D setup and render engine - Discrete, Triangles, Strips and fans
  - Per pixel perspective corrected texture mapping
  - Software DVD at 30fps, full screen
- 2D graphics features
  - Optimized 256-bit BLT engine
  - 32-bit alpha blended cursor
  - Programmable 3-color transparent cursor
- 3D graphics features
  - 200 megapixels/sec fill rate
  - Maximum 3D resolution: 1600x1200x32 @ 85Hz
  - Flat and Gouraud shading

- 16- and 24-bit Z-buffering and 16- and 24-bit W-buffering
- Vertex and programmable pixel fogging and atmospheric effects
- Double and triple render buffer
- Software drivers
  - Windows® 98SE/2000/ME/XP
  - Windows NT® 4.0

#### ONBOARD AUDIO FEATURES

- Realtek ALC202A
- 18-bit stereo full-duplex codec with independent variable sampling rate
- High quality differential CD input
- True stereo line level outputs
- S/PDIF-out interface
- 2-channel audio output
- Speaker-out jack supports 2W amplifier providing better audio quality to the headphone or speakers

#### ONBOARD LAN FEATURES

- Uses Intel 82562EM fast ethernet controller
- IEEE 802.3, 10BASE-T/100BASE-TX compliant physical layer interface
- IEEE 802.3u Auto-Negotiation
- Digital Adaptive Equalization control
- Link status interrupt capability
- 10BASE-T auto-polarity correction
- Alert on LAN functionality
- LAN Connect I/F
- 1:1 transmit transformer ratio support
- Automatic detection of "unplugged mode"

#### PCI IDE INTERFACE

- Supports ATA/33, ATA/66 and ATA/100 hard drives
- PIO Mode 4 Enhanced IDE (data transfer rate up to 16.6MB/sec.)
- Bus mastering reduces CPU utilization during disk transfer
- Supports ATAPI CD-ROM, LS-120 and ZIP

#### PROCESSOR SOCKET

- Socket 478

#### REAR PANEL I/O PORTS

- 2 USB 2.0/1.1 ports
- 1 RJ45 LAN port
- 1 DB-9 serial port
- 1 DB-15 VGA port
- 1 DB-25 parallel port
- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 1 game port
- 3 audio jacks: speaker-out, line-in and mic-in

#### I/O CONNECTORS

- 2 connectors for 4 additional external USB 2.0/1.1 ports
- 3 connectors for 3 external serial ports (COM 4 can be switched between RS232 and RS485 protocols)
- 1 front audio connector for external line-out and mic-in jacks
- 1 CD-in internal audio connector
- 1 S/PDIF-out connector
- 1 connector for IrDA interface
- 2 IDE connectors
- 1 floppy connector
- 2 ATX power supply connectors
- 1 Wake-On-LAN connector
- 1 chassis open connector
- 3 fan connectors for CPU fan, chassis fan and 2nd fan

#### EXPANSION SLOTS

- 3 PCI slots

#### COMPATIBILITY

- PCI 2.2 and AC '97 compliant

#### PCB

- 4 layers, microATX form factor
- 24.38cm (9.6") x 24.38cm (9.6")