

# G4V620-B

# G4V620-N

Intel® Pentium® 4 Processor and Intel® Celeron® Processor

ATX format with PCI and ISA slots, on-board Video, Audio, and LAN

Introduced: Q2/2003

## Features:

- ATX format
- Supports Intel® Pentium® 4 or Celeron® Processor
- Intel® 845GV chipset – 400/533 MHz data bus
- Seven Expansion Slots:
  - 3 PCI
  - 1 Shared PCI/ISA
  - 2 ISA
  - 1 ADD (AGP Digital Display)
- On-board LAN (-N version has 2 LAN)
- Flat Panel Support via ADD (AGP Digital Display) slot
- On-board Audio and Video
- Supports up to 6 USB (2.0)
- On-board CompactFlash
- Long and stable product life cycle
- Monitors fan speed, temperature, and power supply voltages (4-Phase VRM)

The G4V620 series revision controlled motherboards offer the combination of Intel® Pentium® 4 or Intel® Celeron® power (478 pin), three PCI slots, one shared PCI/ISA slot, 2 ISA slots, and 1 ADD slot. This ATX motherboard has a great combination of on-board audio, on-board video, on-board LAN, and up to 6 USBs. If you need a second LAN ask about the G4V620-N.

The G4V620 series boards will support flat panel display via an ADD slot (AGP Digital Display). An added feature is the direct Compact Flash boot up, which is available via the on-board Compact Flash Socket. Other industry features include voltage, fan speed, and temperature monitoring.

12.05" (30.5cm)

9.6" (24.4cm)



G4V620-N Version

The G4V620 is produced under strict revision control guidelines to provide a long product life cycle (3 yrs or more). This reduces your long-term costs for system testing, certification, and maintenance. ITOX motherboards are used in a variety of applications and in many industries including those listed below.

## Markets

- Computer Telephony (CTI)
- Networking
- Medical Imaging
- Security
- Industrial Control
- Voice Recognition
- Embedded Integration



# G4V620-B and G4V620-N Revision Controlled Motherboards

## PROCESSOR

- Intel® Pentium® 4 Processor with Hyper-Threading Technology
- Intel® Pentium® 4 Processor (478-pin)
  - 533MHz system data bus
  - 400MHz system data bus
- Intel® Celeron® Processor (478-pin)
  - 400MHz system data bus

## CHIPSET

- Intel® 845GV chipset
  - Intel® 845GV 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 (DDR 333) 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-Keyboard
  - Wake-On-USB Keyboard
  - Wake-On-Ring (through internal or external modem)
  - 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 v1.0a specification
- AC power failure recovery

## DAMAGE FREE INTELLIGENCE

- Watchdog timer function
- Monitors CPU/system temperature and overheat alarm
- Monitors 5VSB/VBAT/1.5V/3.3V/±5V/±12V/Vcore voltages and failure alarm
- Monitors CPU/system/second fan speed and failure alarm
- Automatic system/second fans on/off control
- 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

- Software drivers
  - Windows® 98SE/2000/ME/XP
  - Windows NT® 4.0

## ONBOARD AUDIO FEATURES

- 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

## ONBOARD LAN FEATURES

- Uses 82559 fast ethernet controller (-N version)
  - Integrated IEEE 802.3, 10BASE-T and 100BASE-TX compatible PHY
  - Glueless 32-bit PCI master interface
  - Glueless CardBus master interface
  - 128 Kbyte Flash interface
  - Thin BGA 15 mm2 package
- Uses 82562 fast ethernet controller
  - Basic 10/100 Client Connection. Supports 559 level cable and PHY Stats. Support for Server OS included as check item, but no Server function included
  - Same Quality Driver suits as 82559
  - Supports DMI/SNMP/WMI
  - 10/100 Auto Sensing
  - IEEE 802.3, 10BASE-T/100BASE-TX compliant physical layer interface
  - IEEE 802.3u Auto-Negotiation
  - 48-pin SSOP, 3.3V device

## PCI IDE INTERFACE

- Supports ATA/33, ATA/66 and ATA/100 hard drives
- PIO Mode 4 Enhanced IDE (data transfer rate up to 14MB/sec.)
- Bus mastering reduces CPU utilization during disk transfer
- Supports ATAPI CD-ROM, LS-120 and ZIP

## REAR PANEL I/O PORTS

- 4 USB 2.0/1.1 ports
- 1 RJ45 LAN port (-N version has 2 LAN ports)
- 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
- 3 audio jacks: line-out, line-in and mic-in

## I/O CONNECTORS

- 1 CompactFlash™ socket
- 1 connector for 2 additional external USB 2.0/1.1 ports
- 1 connector for 1 external serial port
- 1 connector for an external game/MIDI port
- 2 internal audio connectors (CD-in and AUX-in)
- 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 Wake-On-Ring connector
- 1 chassis open connector
- CPU fan, system fan and second fan connectors

## EXPANSION SLOTS

- 1 ADD (AGP Digital Display) slot for flat panel support.
- 3 PCI slots
- 1 Shared PCI/ISA slot
- 2 ISA slots

## COMPATIBILITY

- PCI 2.2 and AC '97 compliant

## CIRCUIT BOARD (PCB)

- 4 layers, ATX form factor
- 30.5cm (12") x 24.4cm (9.6")

## SAFETY

- UL, cUL, FCC Class B, CE



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