

# Intel® Desktop Board VC820

## For the Intel® Pentium® III Processor

### Advanced Technologies for Performance PCs

The Intel® Desktop Board VC820 features the new Intel® 820 chipset, offering system integrators the latest in PC technology, while enabling new and exciting performance capabilities. The Desktop Board VC820 supports the latest Intel® Pentium® III processors at 133-MHz system bus. In addition, it supports RDRAM\* memory technology, which delivers 2X-3X the bandwidth of SDRAM. The Desktop Board VC820 is the leading-edge, performance platform solution for system integrators who want to provide their customers the latest in PC technology.



## Product Brief

**Delivering New Performance Features** The Desktop Board VC820 with the new Intel 820 chipset supports exciting new technologies, including a 133-MHz system bus, RDRAM memory, AGP 4X, Ultra ATA/66 and the Instantly Available PC power management mode. The combination of these features with the Intel Pentium III processor enables exciting system designs. The friendly ATX form-factor, five PCI slots, Audio/Modem Riser (AMR) connector and AGP connector give system integrators a reliable, stable and flexible platform. The Desktop Board VC820 also offers integrated Creative Labs\* Sound Blaster\* AudioPCI 128.

**Delivering Design Flexibility and Easy Integration** The Desktop Board VC820 also provides system integrators with maximum design flexibility by supporting both 133-MHz and 100-MHz system bus designs. System integrators benefit from Intel's extensive compatibility and validation testing that helps ensure consistent and reliable performance.

The boxed Intel Desktop Board VC820 comes with many items needed to integrate a complete system, such as an Ultra ATA/66 capable IDE cable, a floppy drive cable, an I/O shield and product documentation. The Desktop Board VC820 also comes with the new Web-like CD user interface for fast, efficient installation of drivers. The Desktop Board VC820 product CD also comes standard with Norton Antivirus\* and Internet Utilities.

Features	Benefits
<b>Support for the Intel® Pentium® III processor and Pentium® II processor.</b>	Supports the latest Pentium III processors at 133-MHz system bus. Also supports Pentium III and Pentium II processors at 100-MHz system bus.
<b>Intel® 820 Chipset</b>	Newest Intel® chipset technology. Provides the flexibility to support both 133-MHz and 100-MHz system designs, plus new performance enhanced features.
<b>Two RDRAM* RIMM* Module Connectors</b>	Supports the new RDRAM memory technology. 2X-3X the bandwidth of SDRAM. Supports 512 MB maximum memory.
<b>AGP 4X Capability</b>	Supports the latest in graphics technology.
<b>Ultra ATA/66</b>	Faster disk I/O with improved data integrity.
<b>Five PCI slots</b>	Expansion slots for custom system configurations and future add-in card upgrades.
<b>Creative Labs* Sound Blaster* AudioPCI 128</b>	Exceptional sound. PCI design, support for downloadable wavetable, 3D positional audio.
<b>Audio/Modem Riser (AMR)</b>	New technology which supports audio and/or modem riser cards to allow for system cost savings.
<b>Dual Universal Serial Bus (USB) connectors</b>	Expands and simplifies PC connectivity while enabling new peripherals.
<b>Instantly Available PC (Suspend-to-RAM)</b>	Power-management mode to reduce PC power consumption. Allows PC to behave like consumer electronic appliances.
<b>Hardware Management ASIC</b>	In coordination with Intel® LANDesk® Client Manager, allows remote monitoring of system conditions for lower total cost of ownership.
<b>ATX form factor</b>	Proven form-factor standard for easy integration.
<b>Three-year limited warranty</b>	Expanded investment protection.

#### The boxed Intel® Desktop Board VC820 includes:

- Desktop Board VC820
- Processor Retention Mechanism
- ATX compliant I/O shield
- AGP Retention Mechanism (recommended for AGP 4X support)
- Configuration label, stickers, back-panel label and a battery warning label
- One IDE cable (Ultra ATA/66 capable), one floppy cable
- Quick Start Guide
- CD-ROM with software drivers, warranty, Product Guide, Norton Anti-Virus\* and Internet Utilities
- One Continuity RIMM\* Module



# Intel® Desktop Board VC820 Specifications

## Processor/Cache

Processors Supported	Intel® Pentium® III processors 733 MHz to 533 MHz with 133-MHz system bus and 512 K of integrated L2 cache
	Intel Pentium III processors 600 MHz to 450 MHz with 100-MHz system bus and 512 K of integrated L2 cache
	Intel® Pentium® II processors 450 MHz to 350 MHz with 100-MHz system bus and 512 K of integrated L2 cache

## Intel® Chipset

Intel® 82820 chipset consisting of:

- Intel 82820 Memory Controller Hub (MCH)
- Intel 82801AA I/O Controller Hub (ICH)
- Intel 82802AB Firmware Hub (FWH)

## Intel® 82820 Memory Controller Hub (MCH)

System Bus	Supports 100-MHz and 133-MHz system bus
AGP	AGP 2.0 Compliant Interface (1X, 2X or 4X)

## System Memory

Memory Capacity	2 168-pin RAMBUS® interface memory module (RIMM*) connectors with support for up to 512 MB of memory		
Memory Type/Size	Supports PC600, PC700 and PC800 RAMBUS memory with both ECC and non-ECC as follows:		
<b>PCxxx</b>	<b>PC600</b>	<b>PC700</b>	<b>PC800</b>
Memory Bus Speed:	300 MHz	356 MHz	400 MHz
Processor Host Bus 100 MHz:	Supported	Not Supported	Supported
Processor Host Bus 133 MHz:	Not Supported	Supported	Supported
<i>The total number of memory components on all RIMMs may not exceed 32</i>			

RIMM Sizes	64 MB, 96 MB, 128 MB, 256 MB
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## Intel® 82801AA I/O Controller Hub (ICH)

Integrated IDE Accelerator	Two independent channels for four IDE devices
	Ultra ATA/66, Ultra ATA/33, PIO Modes 0, 3 & 4 and CD-ROM support
USB	Two stacked USB connectors

## Intel® 82802AB Firmware Hub (FWH)

System BIOS	4-mb Flash EEPROM with Intel/AMI® BIOS featuring Plug and Play, IDE drive auto-configure, Advanced Power Management (APM) 1.2, ACPI 1.0, DMI 2.0, Multilingual support, hardware random number generator
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## Integrated Super I/O

Controller	SMSC LPC47M102 Ultra I/O Controller
Serial Ports	Two FIFO serial ports
	Async, RS-232C, PC16450/16C550A compatible
Parallel Port	Compatible, Bi-directional, ECP, EPP (IEEE 1284 compliant)
Floppy Controller	1.44 MB, 2.88 MB, 3-Mode support
Keyboard/Mouse	8042A Compatible Controller
Real Time Clock	Century Reg. +/- 13 min/yr accuracy
APM/ACPI	Power ON/OFF, Sleep/Resume features
	Supports Instantly Available PC through Suspend to RAM

## AGP Universal Connector

Supports AGP 4X, 2X or 1X

## Integrated Audio

Creative Labs® Sound Blaster® ES 1373 PCI with 128-voice wavetable synthesis, compatible with Sound Blaster® Pro, Windows® Sound System and Roland® MPU-401\*, supports Microsoft® DirectSound 3D, Ensoniq® 3D Positional Audio and Aureal® A3D\*

## Audio/Modem Riser (AMR) Connector

Supports add-in cards that meet revision 1.01 of the Audio/Modem Riser Specification

## Enhanced Diagnostics

Four dual-color LEDs on back panel for hardware diagnostic decoding during power on self test

## Jumpers and Front Panel Connectors

Connectors	Reset, Power LEDs, HD LED, power on/off, 3 Fans
Jumpers	Single jumper to set configuration mode for the BIOS Setup program

## Expansion Slots (all full length)

Description:	5 dedicated PCI slots, 1 AGP universal connector and 1 Audio/Modem Riser (AMR) connector
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## Mechanical

Board Style	ATX mounting holes and external connector placement
Board Size	12.0" x 8.2"

## Baseboard Power Requirements

+3.3 V	Tolerance +/-5% 1.8A
+5 V	Tolerance +/-5% 2.0A
+5 V	Tolerance +/-5% 0.7A (standby)
-5 V	Tolerance +/-5% 0.8A
+12 V	Tolerance +/-5% 0.2A
-12 V	Tolerance +/-5% 0.6A

## Environment

Operating Temperature	0°C to +55°C
Storage Temperature	-40°C to +70°C

## Safety Regulations

U.S. and Canada	UL 1950 - CSA 950-95, U.S. and Canadian recognition component marks
Europe	UL Classified to IEC 950

## EMI/RFI reg.

U.S.	<b>Intended for use in systems meeting the following EMI/RFI regulations:</b> FCC Class B (DofC - Cover off testing)
Canada	IC Class B
Europe	EU Class B (Res, Com, Light Industry)
Japan	VCCI, Class B (ITE)
Australia	c-tick

Complies with U.S. CRF via EN55022 + 6 db in an open chassis and EU Directive 89/336/EEC via EN55022 and EN50082-1 in a representative chassis.



For the most current product information, visit Intel's Web site at:  
<http://channel.intel.com/business/ibp/boards/vc820.htm>

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The Intel Desktop Board VC820 may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

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