



STANDARD
MICROSYSTEMS
CORPORATION

VictoryBX-66 Chipset

VictoryBX-66 Chipset for Pentium® II and Pentium® III Based Mobile and Desktop PC Systems

The SMSC VictoryBX-66 chipset provides features necessary to optimize the performance of Pentium II and Pentium III based mobile and desktop PC systems and Embedded applications. The VictoryBX-66 is comprised of the Intel® FW82443BX (440BX) Memory Controller (North Bridge) and the SMSC Victory66 SLC90E66 I/O Controller (South Bridge). A PC designed with the VictoryBX-66 Chipset benefits from the performance provided by the FW82443BX North Bridge and the added value of the SMSC Victory66 South Bridge. The VictoryBX-66 chipset can be used in existing designs that utilize the Intel 440BX Chipset.

- High Performance Chipset for Pentium II and Pentium III based PC Applications
- Comprised of Intel FW82443BX North Bridge and SMSC Victory66 SLC90E66 South Bridge
- Pin Compatibility with Intel 440BX Chipset allows Drop-in Replacement for Existing Designs
- Enhanced Performance for Desktop and Mobile PC and Embedded System Applications
- Enhanced Power Management
- Best of Class Performance for Mobile PC Applications

FEATURES

Intel FW82443 North Bridge

- High Performance Intel FW82443BX Memory Controller
 - Support for Single and Dual Pentium II and Pentium III Processor Configurations
 - 64-bit GTL+ Based Host Bus Interface
 - 32-bit Host Address Support
 - 64-bit Main Memory Interface with Optimized Support for SDRAM at 100/66/60 MHz
 - AGP 1.0 (1x/2x) Interface Supports 133 MHz Data Transfer Rates
 - Extensive Data Buffering Between All Interfaces for High Throughput and Concurrent Operations
 - Mobile and "Deep Green" Desktop Power Management Support
- Optimized for Pentium II and Pentium III with Support for 100/66 MHz Front Side Bus Operation
- SDRAM Support for 8 to 512 Mbytes or 1GB (with Registered DIMMs)
- 33 MHz PCI Rev. 2.1 Host Interface Operates at 3.3V and 5V and Supports Concurrent CPU, AGP and PCI Transactions to Main Memory
- AGP Rev. 1.0 Interface Supports 1x (66 MHz) and 2x (133 MHz) AGP Graphics Devices.
- Enhanced Power Management Including Clock and Power Control, Suspend/Resume Modes, and support for ACPI OS Based Power Management
- 492-ball Ball Grid Array (BGA) Package
- 3.3V Core Operating Voltage and mixed 3.3V and GTL I/O

SMSC Victory66 SLC90E66 South Bridge

- Enhanced PCI I/O Controller for Mobile and Desktop Applications
 - Pin and Register Compatible with Intel 82371EB PIIX4E South Bridge
 - High Performance OHCI USB Host Controller
 - Ultra ATA/66 IDE Controller
 - Enhanced Support for Mobile Applications
 - Compatible with Full Line of Intel PCI-based North Bridge Devices
 - Support for Third Party North Bridge Solutions
- Integrated Ultra ATA/66 IDE Controller supports Transfer Rates up to 66Mbytes/Second and Independent Timing for up to Four Drives
- OHCI USB Host Controller with Two USB 1.0 Ports for Transfers at 1.5 or 12 Million Bits per Second
- Integrated Multifunction Bridge Supports PCI Rev 2.1 to ISA Bus or Extended I/O (XIO) Bus with Full Positive Decode or Subtractive Decode of PCI
- Enhanced Power Management for Mobile and Desktop PC and Embedded System Applications including Clock and Power Control, Suspend and Resume Modes, Device Activity Monitors and support for ACPI OS Based Power Management
- AT Compatibility Features include Timers, DMA and Interrupt Controllers, Real Time Clock and support for PC/PCI and Distributed DMA protocols
- Integrated SMBus Host Controller
- 324-ball Plastic Ball Grid Array (PBGA) Package
- 3.3V Core Operation with 5V Tolerant Buffers

© STANDARD MICROSYSTEMS CORPORATION (SMSC) 2000



80 Arkay Drive
Hauppauge, NY 11788
(631) 435-6000
FAX (631) 273-3123

Standard Microsystems is a registered trademark of Standard Microsystems Corporation, and SMSC is a trademark of Standard Microsystems Corporation. Pentium is a registered trademark of Intel Corporation. Product names and company names are the trademarks of their respective holders. Circuit diagrams utilizing SMSC products are included as a means of illustrating typical applications; consequently complete information sufficient for construction purposes is not necessarily given. Although the information has been checked and is believed to be accurate, no responsibility is assumed for inaccuracies. SMSC reserves the right to make changes to specifications and product descriptions at any time without notice. Contact your local SMSC sales office to obtain the latest specifications before placing your product order. The provision of this information does not convey to the purchaser of the semiconductor devices described any licenses under the patent rights of SMSC or others. All sales are expressly conditional on your agreement to the terms and conditions of the most recently dated version of SMSC's standard Terms of Sale Agreement dated before the date of your order (the "Terms of Sale Agreement"). The product may contain design defects or errors known as anomalies which may cause the product's functions to deviate from published specifications. Anomaly sheets are available upon request. SMSC products are not designed, intended, authorized or warranted for use in any life support or other application where product failure could cause or contribute to personal injury or severe property damage. Any and all such uses without prior written approval of an Officer of SMSC and further testing and/or modification will be fully at the risk of the customer. Copies of this document or other SMSC literature, as well as the Terms of Sale Agreement, may be obtained by visiting SMSC's website at <http://www.smsc.com>.

SMSC DISCLAIMS AND EXCLUDES ANY AND ALL WARRANTIES, INCLUDING WITHOUT LIMITATION ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND AGAINST INFRINGEMENT, AND ANY AND ALL WARRANTIES ARISING FROM ANY COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL SMSC BE LIABLE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, OR FOR LOST DATA, PROFITS, SAVINGS OR REVENUES OF ANY KIND; REGARDLESS OF THE FORM OF ACTION, WHETHER BASED ON CONTRACT, TORT, NEGLIGENCE OF SMSC OR OTHERS, STRICT LIABILITY, BREACH OF WARRANTY, OR OTHERWISE; WHETHER OR NOT ANY REMEDY IS HELD TO HAVE FAILED OF ITS ESSENTIAL PURPOSE; AND WHETHER OR NOT SMSC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

GENERAL DESCRIPTION

The SMSC VictoryBX-66 chipset provides features necessary to optimize the performance of Pentium II and Pentium III based mobile and desktop PC systems. The VictoryBX-66 is comprised of the Intel FW82443BX Memory Controller (North Bridge) and the SMSC Victory66 SLC90E66 I/O Controller (South Bridge). A PC designed with the VictoryBX-66 Chipset benefits from the performance provided by the 440BX North Bridge and the added value of the SMSC Victory66 South Bridge. The VictoryBX-66 chipset can be used in existing designs utilizing the Intel 440BX Chipset.

Intel 440BX North Bridge Performance

The VictoryBX-66 chipset includes the Intel 440BX Northbridge providing system designers with proven performance, reliability, and stability. Primary interfaces of the Intel FW82443BX are the 100-MHz Processor Interface (Front Side Bus), Accelerated Graphics Port (AGP) 1.0 (1x/2x) interface, 64-bit PC100 SDRAM interface, and PCI Host Interface. The 100-Mhz Front Side Bus coupled with the AGP 2x and PC100 SDRAM performance provide a properly balanced architecture for optimal processor and graphics performance.

SMSC Victory66 SLC90E66 South Bridge Offers Enhanced Value

The Victory66 South Bridge offers numerous enhancements that provide increased performance and power management functionality. The integrated Ultra ATA/66 IDE Controller supports hard drive data transfer of up to 66 Million bytes per second – twice the bandwidth of other Southbridges. The Open Host Controller Interface (OHCI) compatible Universal Serial Bus (USB) Host Controller Architecture provides increased data throughput performance. Additionally, power management enhancements make the VictoryBX-66 Chipset ideal for high-performance mobile designs.

Supports Existing Designs

Because the VictoryBX-66 Chipset is comprised of the Intel FW82443BX North Bridge and the PIIX4E-compatible Victory66 South Bridge, the VictoryBX-66 can be used in existing designs to enhance performance and provide improved power management. BIOS support for the VictoryBX-66 chipset is available from all major BIOS vendors.

Optimized for Mobile Applications

The VictoryBX-66 Chipset is the optimum solution for advanced mobile applications. The Intel FW82443BX provides leading edge notebook performance with its AGP 1.0 graphics interface, PC100 SDRAM support and 100-/66-MHz front side bus support. The Victory66 SLC90E66 South Bridge provides best of class performance with its Ultra ATA/66 IDE Controller and OHCI USB Host Controller. Power management enhancements improve the power profile of systems based on the VictoryBX-66. The ability to disable and/or relocate the Real Time Clock allows for superior performance when used with highly integrated SMSC System Controller Hubs such as the FDC37N972 with integrated 8051 power management controller. The ability to wake from USB Power-On Suspend provides additional system usability.

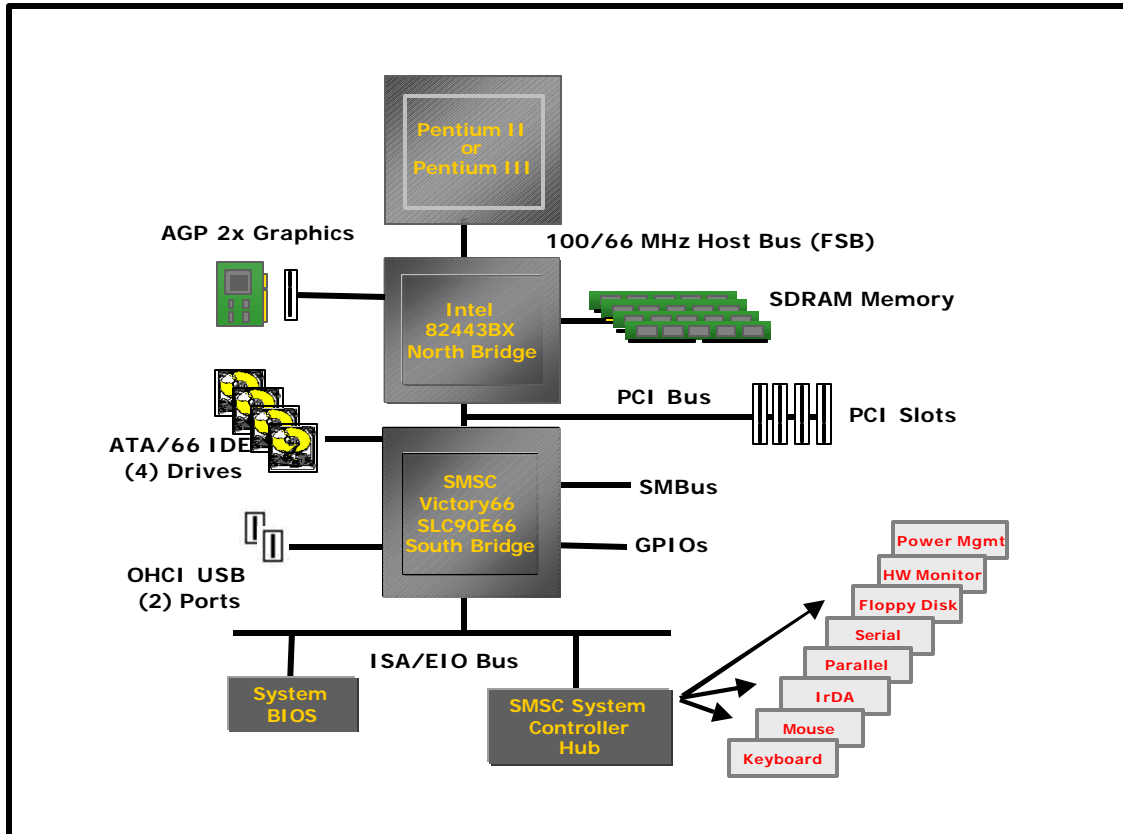
ORDERING INFORMATION

Order Number:

VictoryBX-66

492-Ball BGA Package (Intel FW82443BX North Bridge)

324-Ball BGA Package (SLC90E66 South Bridge)



VictoryBX-66 System Block Diagram