

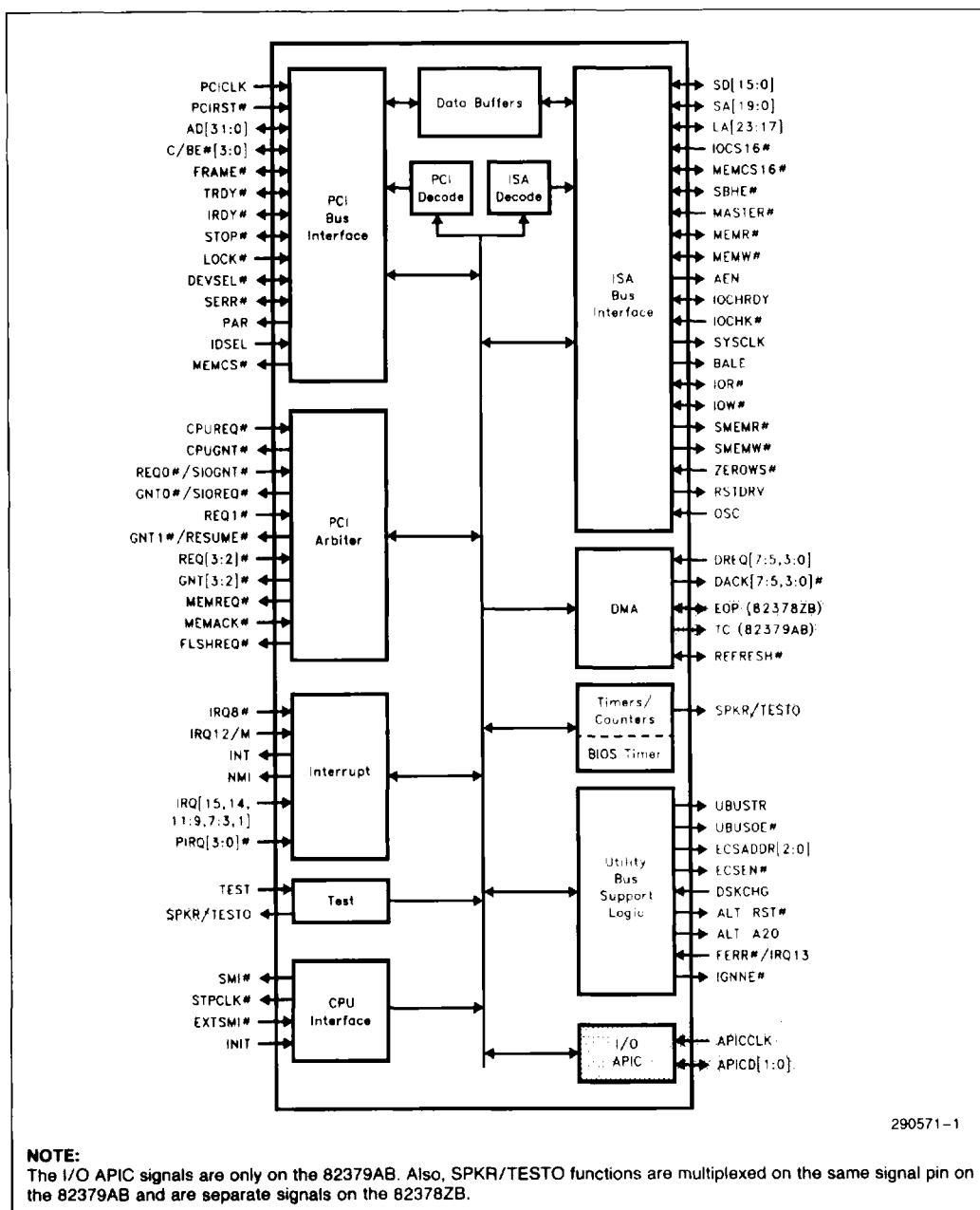


82378ZB SYSTEM I/O (SIO) AND 82379AB SYSTEM I/O APIC (SIO.A)

- Provides the Bridge between the PCI Bus and ISA Bus
- 100% PCI and ISA Compatible
 - PCI and ISA Master/Slave Interface
 - Directly Drives 10 PCI Loads and 6 ISA Slots
 - PCI at 25 MHz and 33 MHz
 - ISA from 6 MHz to 8.33 MHz
- Enhanced DMA Functions
 - Scatter/Gather (82378ZB)
 - Fast DMA Type A, B and F (82378ZB)
 - Compatible DMA Transfers
 - 32-bit Addressability(82378ZB)
 - 27-bit Addressability(82379AB)
 - Seven Independently Programmable Channels
 - Functionality of Two 82C37A DMA Controllers
- Data Buffers to Improve Performance
 - 8-Byte DMA/ISA Master Line Buffer
 - 32-bit Posted Memory Write Buffer to ISA
- Integrated 16-bit BIOS Timer
- Non-Maskable Interrupts (NMI)
 - PCI System Errors
 - ISA Parity Errors
- Arbitration for ISA Devices
 - ISA Masters
 - DMA and Refresh
- Four Dedicated PCI Interrupts
 - Level Sensitive
 - Mapped to Any Unused Interrupt
- Arbitration for PCI Devices
 - Six PCI Masters Supported
 - Fixed, Rotating, or a Combination
- Utility Bus (X-Bus) Peripheral Support
 - Provides Chip Select Decode
 - Controls Lower X-Bus Data Byte Transceiver
- Functionality of One 82C54 Timer
 - System Timer
 - Refresh Request
 - Speaker Tone Output
- Functionality of Two 82C59 Interrupt Controllers
 - 14 Interrupts Supported
 - Edge/Level Selectable Interrupts
- I/O APIC (Advanced Programmable Interrupt Controller (82379AB))
 - Support for Multi-Processor Systems
- System Power Management
 - Programmable System Management Interrupt (SMI)Hardware Events, Software Events, EXTSMI #
 - Programmable CPU Clock Control (STPCLK #)
 - Fast-On/Off Mode
- 208 Pin QFP Package

The 82378ZB System I/O (SIO) and 82379AB System I/O—APIC (SIO.A) components are PCI-to-ISA Bus Bridge devices. These devices integrate many of the common I/O functions found in today's ISA-based PC systems—a seven channel DMA controller, two 82C59 interrupt controllers, an 8254 timer/counter, a BIOS timer, Intel SMM power management support, and logic for NMI generation. In addition, the SIO and SIO.A each support a total of 6 PCI Masters, and 4 PCI Interrupts. Decode is provided for peripheral devices such as the Flash BIOS, Real Time Clock, Keyboard/Mouse Controller, Floppy Controller, two Serial Ports, one Parallel Port, and IDE Hard Disk Drive. For both the SIO and SIO.A, each DMA channel supports compatibility transfers. The SIO also supports types A, B, and F transfers and scatter/gather. In addition to the standard ISA-compatible interrupt controller that is in both the SIO and SIO.A, the SIO.A contains an Advance Programmable Interrupt Controller (IO APIC) for use in multi-processing systems.

This document describes both the 82378ZB (SIO) and 82379AB (SIO.A) components. Unshaded areas describe the 82378ZB. Shaded areas, like this one, describe differences between the 82379AB and 82378ZB.



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82378ZB and 82379AB Component Block Diagram

The complete document for this product is available from Intel's Literature Center at 1-800-548-4725.