

INTEL 430MX PCISSET

82371MX MOBILE PCI I/O IDE XCELERATOR (MPIIX)

- **Provides a Bridge Between the PCI Bus and Extended I/O Bus**
 - PCI Bus; 25–33 MHz
 - Extended I/O Bus; 7.5–8.33 MHz
- **System Power Management (Intel SMM Support)**
 - Programmable System Management Interrupt (SMI)—Hardware/Software Events, EXTSMI#
 - Programmable CPU Clock Control (STPCLK#) with Auto Clock Throttle
 - Peripheral Device Power Management (Local Standby)
 - Suspend State Support (Suspend-to-DRAM and Suspend-to-Disk)
- **Enhanced DMA Functions**
 - Two 8237 DMA Controllers
 - Fast Type F DMA
 - Compatible DMA Transfers
 - PC/PCI DMA Expansion for Docking Support
- **Fast IDE Interface**
 - PIO Mode 4 Transfers
 - 2x16-Bit Posted Write Buffer and 1x32-Bit Read Prefetch Buffer
- **Plug-n-Play Port for Motherboard Devices**
 - 3 Steerable DMA Channels
 - 1 Steerable Interrupt Line (Plus 2 Steerable PCI Interrupts)
 - 1 Programmable Chip Select
- **Functionality of One 82C54 Timer**
 - System Timer
 - Refresh Request
 - Speaker Tone Output
- **Functionality of Two 82C59 Interrupt Controllers**
 - 14 Interrupts Supported
 - Independently Programmable for Edge/Level Sensitivity
- **X-Bus Peripheral Support**
 - Chip Select Decode
 - Controls Lower X-Bus Data Byte Transceiver
- **Non-Maskable Interrupts (NMI)**
 - PCI System Error Reporting
- **NAND Tree for Board-Level ATE Testing**
- **176-Pin TQFP**

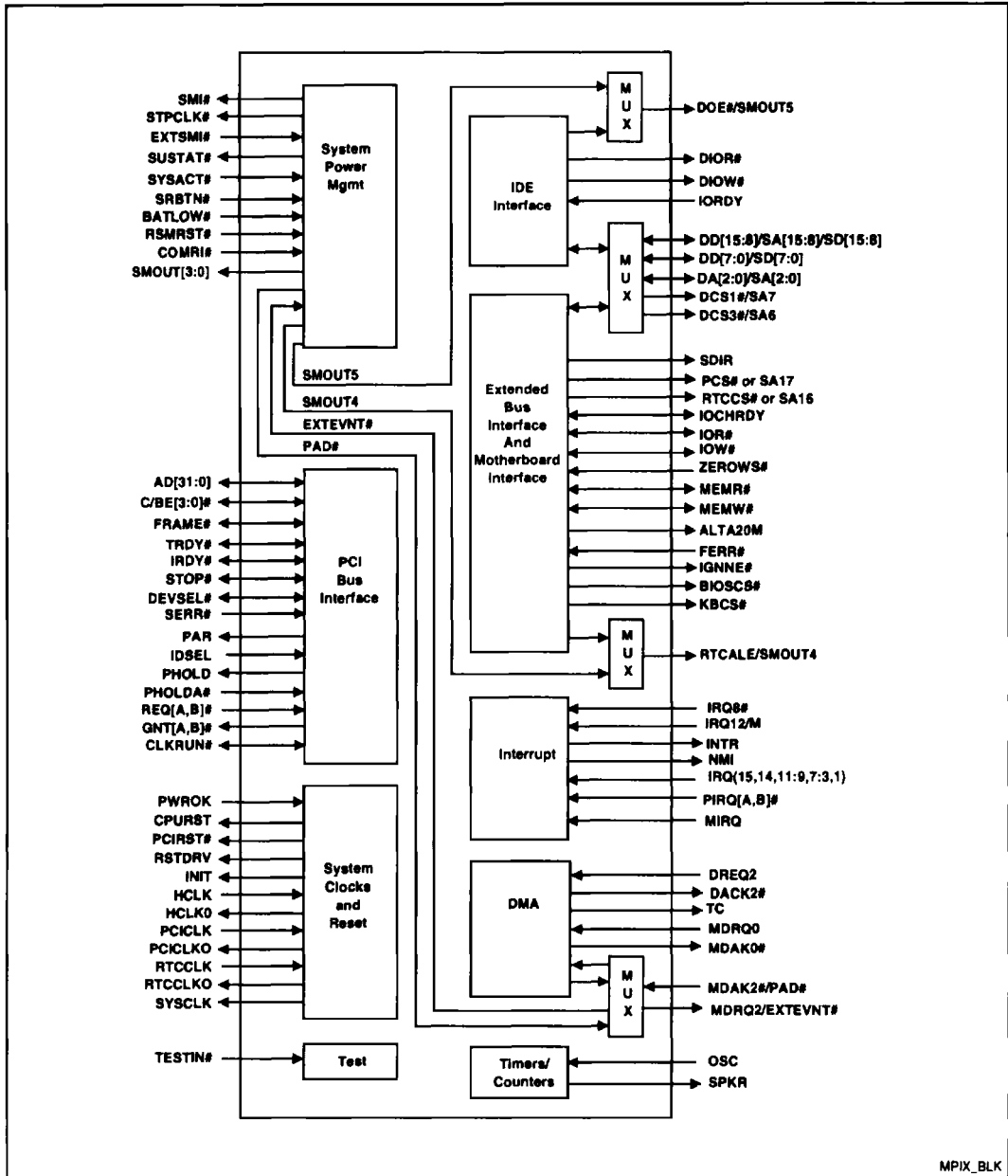
The 82371MX PCI I/O IDE Xcelerator (MPIIX) provides the bridge between the PCI bus and the ISA-like Extended I/O expansion bus. In addition, the 82371MX has an IDE interface that supports two IDE devices providing an interface for IDE hard disks and CD ROMs. The MPIIX integrates many common I/O functions found in ISA based PC systems—a seven-channel DMA controller, two 82C59 interrupt controllers, an 8254 timer/counter, Intel SMM power management support, and control logic for NMI generation. Chip select decoding is provided for BIOS, real time clock, and keyboard controller. Edge/Level interrupts and interrupt steering are supported for PCI plug and play compatibility.

The MPIIX also provides the Extended I/O Bus for a direct connection to Super I/O devices providing a complete PC-compatible I/O solution. MPIIX also provides support for the “Mobile PC/PCI” DMA Expansion protocol that enables the implementation of Docking Stations with full ISA and PCI capability without running the full ISA bus across the docking connector. For motherboard Plug-n-Play compatibility, the 82371MX also provides three steerable DMA channels, up to three steerable interrupt lines, and a programmable chip select. The interrupt lines can be routed to any of the available ISA interrupts.

The MPIIX’s power management function supports SMI# interrupt sources, extensive clock control (including Auto Clock Throttling), peripheral power idle detection with access traps, system Suspend-to-DRAM and Suspend-to-Disk.

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MPIX_BLK

82371MX MPIIX Block Diagram