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R380EX DATA SHEET

HIGH-INTEGRATION INTEL® 386 PC-COMPATIBLE SYSTEM CONTROLLER WITH SUPPORT FOR EDO DRAM, ISABUS AND POWER MANAGEMENT

FEATURE SUMMARY

- Supports Intel386EX CPU
- True single-chip ISA implementation
- DRAM controller, 512KB to 64MB
- Flash SIMM controller
- Integrated real-time clock
- Enhanced IDE interface
- Keyboard and mouse controller
- Power management
- Supports Intel386EX chip DMA
- Four programmable I/O chip selects
- 16-bit digital I/O port plus 6-bit output port
- Supports local bus implementation
- ROM or flash ROM interface
- Speaker interface
- Test mode
- 5V or 3.3V operation
- SMI support
- BIOS shadowing
- 208-pin PQFP
- Reference design available

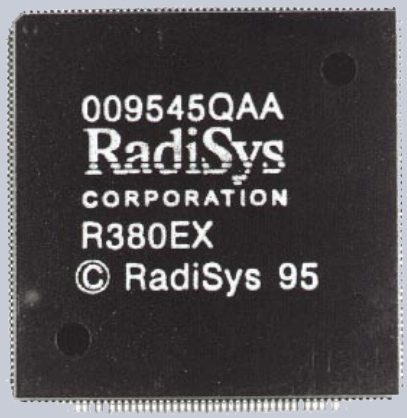
PRODUCT OVERVIEW

The RadiSys R380EX Embedded System Controller is a member of the RadiSys family of embedded core logic specifically designed to support the Intel386EX processor. Providing the necessary circuitry for a PC-compatible embedded system design, it supplies a simple, low-cost, "glueless" interface to additional chips like a video controller or a PCMCIA controller.

The functional design of the R380EX is directly derived from PC architecture. The R380EX includes a DRAM controller, keyboard/mouse controller, real time clock, enhanced IDE interface, and ISAbus controller. The DRAM controller is compatible with both fast-page-mode (FPM) and extended-data-out (EDO) DRAM. It can be configured to support both DRAM SIMMs and flash SIMMs for greater system flexibility. The enhanced IDE interface supports a maximum transfer rate of 8.33MB per second. The ISAbus controller has a separate data bus, and manages the ISA signals to ensure a "quiet" bus for cycles not directed to the ISA address space.

The power management capabilities of the R380EX include clock source switching, halt detection, SMI event generation, and a programmable clock restart delay to ensure clock frequency settling when restarting the oscillator from a powerdown state. The clock source for the Intel386EX processor can be switched between the R380EX CLK2OSC input and the 32.768KHz real time clock oscillator, thereby reducing the system power consumption.

The R380EX has 4 user-programmable I/O chip selects in addition to the Intel386EX processor's chip selects. There are 16 bits of individually programmable digital I/O along with 6 bits of digital output. Additional functional blocks handle the Intel386EX processor halt and shutdown cycles, and control the speaker and external LEDs. The main and alternate functions of many of the pins are controlled through registers within the R380EX.



ORDERING INFORMATION

Call for pricing and availability.
Refer to the order codes below.

DESCRIPTION:

R380EX (ordered in 96 unit lots)
ORDER CODE: R380EX-02

SPECIFICATIONS

FEATURE	FUNCTION	DESCRIPTION
Processor Support	-	Intel386EX
Bus Support	IDE	EIDE
	ISA	-
	Serial Ports	Two included in 386EX
	DMA	Included in 386EX
I/O Support	Counter/Timer	Included in 386EX
	RTC	-
	Interrupt Controller	Two included in 386EX
	Digital I/O	16-bit
	I/O Chip Select	Up to six included in 386EX
	Mouse Controller	-
	Keyboard Controller	-
Memory Management	DRAM Support	512KB to 64MB
	Flash Support	2MB, 4MB
	BIOS Shadowing	-
Power	5V and 3.3V	-
	Compatibility	-
	Power Management	-

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