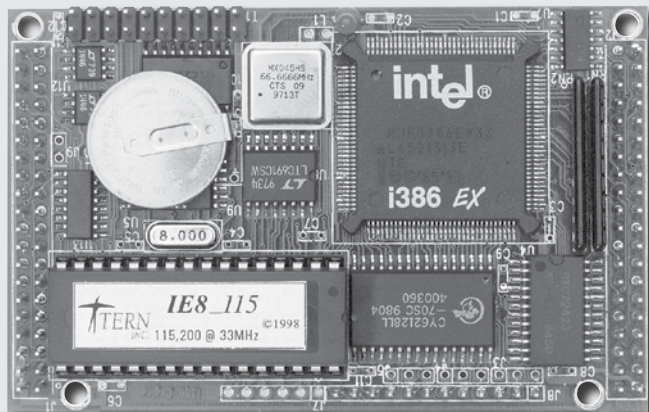


i386-Engine™ (IE)

i386EX-based Controller

C/C++ programmable, 32-bit Intel i386EX processor module with ADC & DAC



Features:

- 3.6x2.3x0.3"
 - 32-bit CPU (Intel i386EX)
 - 270mA at 5V, 28mA in power-down mode
 - Up to 512KB 8-bit SRAM, 512KB 8-bit ROM/Flash *
 - 512-byte EE • Up to 4 serial ports *
 - 3 timers • watchdog
 - 24 multiplexed I/Os, interrupts, DMA
 - 11 ch. 12-bit ADC * • Up to 4 ch. 12-bit DAC *
 - Real-time clock, battery *
- * optional

The **i386-Engine™ (IE)** is a 32-bit microprocessor core module based on the 33MHz intel386EX™. It is designed for embedded systems that require high performance and PC-compatibility, at a low cost. The **i386-Engine™** operates with regulated 5V-only power input, and consumes 270mA at 33MHz. In software-programmable power-down mode, power consumption is 28mA. The real-time clock can switch an external power supply on and off to achieve µA-level power consumption. The **IE** operates in either 8-bit or 16-bit external data mode. Up to 512KB 8-bit ROM/Flash and up to 512KB 8-bit battery-backed SRAM can be installed on-board. 64MB of memory space is supported, with 26 address lines and 16 data lines. A 512-byte serial EEPROM is on-board. The optional real-time clock (RTC72423) with a lithium coin battery provides information on the year, month, date, hour, minute, second, and 1/64 second.

Two asynchronous serial ports from the i386EX support reliable DMA-driven serial communication speeds up to 115,200 baud. The synchronous serial port operates at up to 8MHz. A UART SCC2691 can be added to support 8-bit or 9-bit serial communication. Three 16-bit programmable timers/counters can be used to generate interrupts or count external events, at a rate of up to 8MHz, or to generate pulse outputs. Three 8-bit multifunctional, user-programmable I/O ports support up to 10 external interrupts. Four external interrupts are buffered by Schmitt-trigger inverters and provide active low inputs. The other six interrupts provide active high inputs. A supervisor chip (LTC691) offers

power-failure detection and a watchdog timer.

The 12-bit serial ADC has sample-and-hold, a high-impedance reference input, 11 single-ended 0-5V (or 0 to REF) inputs, and a 10KHz sample rate. Up to four serial 12-bit DAC provide 0 to 4.095 Volt analog voltage outputs, capable of sinking or sourcing 5mA.

Ordering Information

IE **\$186/\$134/\$99/\$64** **Qty 1/100/1K/5K+**

Includes: i386EX 33MHz, 128KB SRAM, 1 sync. & 2 async. UARTs, 3 timers, watchdog, 512-byte EE.

NOT including add-on options. OEM option discounts available.

Add-on Options:

- 1) SRAM: 512KB.....\$20
- 2) Debug ROM (*IE8_0_115*)\$20
- 3) Real-time clock (RTC) and battery.....\$20
- 4) UART (SCC2691).....\$20
- 5) 11 ch. 12-bit ADC (TLC2543)\$20
- 6) **VE232™** interface board\$69
- 7) 2 ch. 12-bit DAC *up to 2 chips*.....\$20 each
- 8) Sockets for expansion: two 20x2, one 10x2\$9

Typical Order Example:

i386-Engine™, 512 KB SRAM, RTC & Battery

IE + 1 + 3 = \$186 + \$20 + \$20 = \$226

Signals at J1 and J2:

J1 Signal		J2 Signal	
Function	Pin#	Function	Pin#
VCC	1	GND	40
MPO	3	RI1	38
RxD	5	P27	36
TxD	7	TxD0	34
VOFF	9	RxD0	32
BHE	11	P36	30
D15	13	TxD1	28
/RST	15	RxD1	26
RST	17	P34	24
/CS6	19	/CTS1	22
D14	21	P13	20
D13	23	P12	18
M/IO	25	R/W	16
D12	27	P10	14
/WR	29	P14	12
/RD	31	P23	10
D11	33	/INT5	8
D10	35	/INT6	6
D9	37	DSR1	4
D8	39	GND	2
			1

J7 and J8 Signal: A8-A25



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