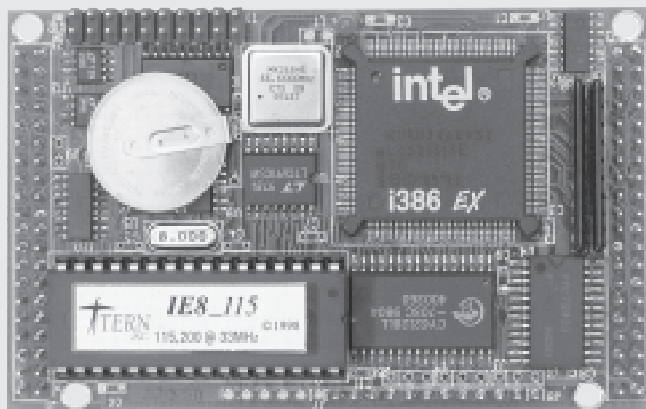


i386-Engine™ (IE)

i386EX-based Controller

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



Features:

- 3.6x2.3x0.3" • -40°C to +80°C
- 32-bit CPU (Intel i386EX)
- 270mA at 5V, 28mA in power-down mode
- Up to 512KB 8-bit RAM, 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 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 μ A-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 \$40
- 2) Debug ROM (*IE8_0_115*) \$30
- 3) Real-time clock (RTC) and battery \$20
- 4) UART (SCC2691) \$20
- 5) 11 ch. 12-bit ADC (TLC2543) \$30
- 6) **VE232™** interface board \$69
- 7) 2 ch. 12-bit DAC *up to 2 chips*..... \$40 each
- 8) Sockets for expansion: two 20x2, one 10x1 \$9

Typical Order Example:

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

IE + 1 + 3 = \$186 + \$40 + \$20 = \$246

Signals at J1 and J2:

J1 Signal			J2 Signal		
Function	Pin#	Function	Function	Pin#	Function
VCC	..... 1	2 ... GND	GND	..... 40	39 VCC
MPO	..... 3	4 TOUT2	R11	..... 38	37 P21
RxD	..... 5	6 ... GND	P27	..... 36	35 P37
TxD	..... 7	8 D0	TxD0	.... 34	33 ... /INT4
VOFF	..... 9	10 D1	RxD0	... 32	31 .. /RTS1
BHE	..... 11	12 D2	P36	..... 30	29 P35
D15	..... 13	14 D3	TxD1	.... 28	27 P11
/RST	.... 15	16 D4	RxD1	... 26	25 .. DTR1
RST	..... 17	18 D5	P34	..... 24	23 P33
/CS6	.... 19	20 D6	/CTS1	.. 22	21 P32
D14	..... 21	22 D7	P13	..... 20	19 P31
D13	..... 23	24 ... GND	P12	..... 18	17 P30
M/I/O	.... 25	26 A7	R/W	.... 16	15 ... /INT7
D12	..... 27	28 A6	P10	..... 14	13 P17
/WR	..... 29	30 A5	P14	..... 12	11 P16
/RD	..... 31	32 A4	P23	..... 10	9 .. TCLK2
D11	..... 33	34 A3	/INT5	.... 8	7 NMI
D10 35	36 A2	/INT6 6	5 P22
D9 37	38 A1	DSR1 4	3 P24
D8 39	40 BLE	GND 2	1 ... DCD1

J7 and J8 Signal: A8-A25



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