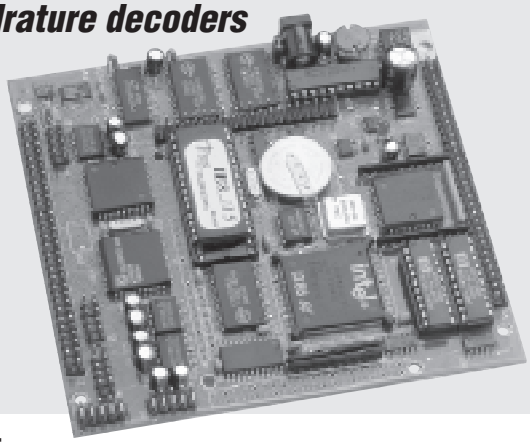
i386-Drive™ (ID)

i386EX-based Controller

32-bit Intel i386EX processor module with 70+ I/Os, UARTs, ADC, DAC, quadrature decoders



Features:

- 4.7x 4.5 x 0.6" • -40˚C to +80˚C
- Power consumption: 300/160/80/30mA at 8.5/12/24/35V
- Power input: +8.5 to +12V/35V (linear/switching regulator*)
- 32-bit CPU (Intel i386EX, 33MHz), C/C++ programmable
- 24 multiplexed I/Os, interrupts, DMA, 512-byte EE
- 48 bi-directional I/O lines from 2 PPIs
- Up to 3MB* SRAM/Flash
- Up to 6 serial ports and RS-232/485 drivers *
- Up to 2 quadrature decoders*
- Real-time clock, battery *
- One 100KHz, ±10V, 16-bit ADC and one 5 Hz 24-bit ADC *
- Up to 22 12-bit ADC, two 12-bit DAC, and one 16-bit DAC *
- One 100KHz, high speed 12-bit DAC *
- PCMCIA and Ethernet interface via ***MMB™***

* optional

The ***i386-Drive™*** **(ID)** is a compact, low-cost, high performance controller based on the 33MHz, 32-bit intel386EX™. It combines the powerful i386EX CPU and numerous peripherals on a single PCB, measuring 4.7" x 4.5".

The **ID** supports up to 512KB 8-bit SRAM, 512KB 8-bit Flash, 1MB 16-bit SRAM, and 1MB 16-bit Flash. A 512-byte serial EEPROM, which does not require battery backup, can be used as an additional memory device for storing important data.

An optional real-time clock (RTC) provides information on the year, month, date, hour, minute, second, 1/64 second. A lithium coin battery can be installed to back up both the SRAM and RTC.

Two asynchronous serial ports from the i386EX support reliable DMA-driven serial communications (up to 115,200 baud) with RS-232 drivers. The i386EX also offers a synchronous serial port. An optional UART SCC2691 and a dual UART SCC2692 can be added for a total of three asynchronous serial ports with RS-232 or RS-485 drivers.

Three PC-compatible, 16-bit programmable timers/counters can generate interrupts or count external events at a rate of up to 8MHz; they can also generate pulse outputs. Three 8-bit, multi-functional, user-programmable I/O ports are included in the i386EX. Four external interrupts are buffered by Schmitt-trigger inverters and provide active low inputs. A supervisor chip (691) with a watchdog timer is on-board.

Note: 64KW=128KB, 256KW=512KB, 512KW=1MB

Two PPI chips (82C55) provide 48 user-programmable I/O lines totally free for application use. The optional SCC2692 UART provides 15 additional I/O lines.

The **ID** supports many optional ADC and DACs. Up to 22 channels of 12-bit ADC (TLC2543, 0-5V, 10 KHz), one 16-bit ADC (LTC1605, ±10V, 100 KHz), and one 24-bit ADC (LTC2400, 0-5V, 5 Hz) can be installed. Two 12-bit DACs (LTC1446, 0-4.095V, 10 KHz), one 100 KHz 12-bit DAC (LTC1450, 0-4.095V), and one 16-bit DAC (LTC1655, 0-4.095V, 10 KHz) are available.

Two quadrature decoders (HP2020) can interface to optical encoders for motion control uses. Schmitt-trigger inverters are provided. On-board expansion headers provide data lines, address lines, control signals, and pre-decoded chip select lines.

A 5V switching regulator (up to 35V DC input) can be installed to reduce power consumption and heat.

In "power-off" mode, the **ID** consumes very low (μA) power. Users can turn off the switching regulator via software, and use the RTC or an external signal to turn it on.

A ***MMB™*** can be installed on the **ID** to provide an additional 33 channels of 12-bit ADC, 6 channels of 24-bit ADC, and 420MB of PCMCIA memory. An Ethernet interface may also be installed.

Ordering Information

ID $199/$179/$149/$69 Qty 1/100/1K/5K+

Includes: i386EX 33MHz, 128KB SRAM, 2 RS-232, PPIs, watch-dog, 512-byte EE, and 5V linear regulator.

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

Add-on Options:

1) 8-bit SRAM: 512KB $40
2) Debug ROM (*IE8_0_115*) $30
3) Real-time clock (RTC) and battery $20
4) UART (SCC2691) w/ (a) RS-232 (default) or (b) RS-485 ... $30
5) Dual UART (SCC2692) w/ (a) RS-232, or (b) RS-485 ..... $40
6) 16-bit SRAM: (a) 128KB x2, or (b) 512KB x2 ..... $30/$80
7) 16-bit Flash: (a) 256KW $40
8) 24-bit ADC (LTC2400) $20
9) 16-bit ADC (LTC1605, 100KHz) $60
10) 11 ch. 12-bit ADC (TLC2543) *up to 2* ..... $30 each
11) 2 ch. 12-bit DAC (LT1446) $40
12) High-speed 12-bit DAC (LTC1450) $30
13) Switching regulator $30
14) HP2020 Quadrature decoder (up to 2) ..... $30 each

Typical Order Example:

386-Drive™, 512 KB SRAM (8-bit), RTC & Battery

ID + 1 + 3 = $199 + $40 + $20 = $259

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