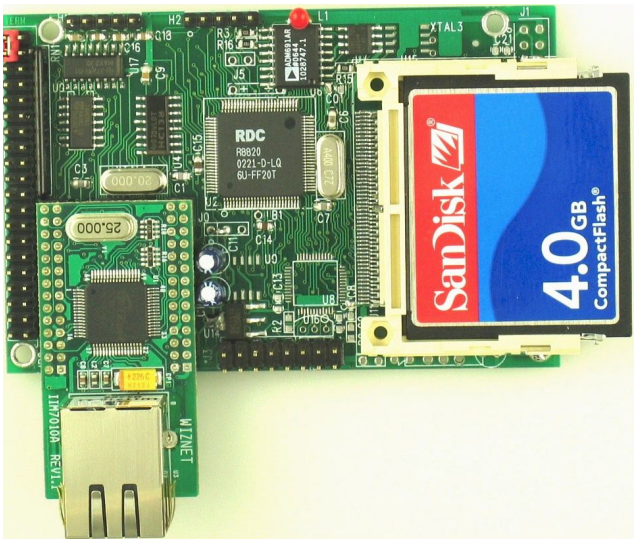
CAN-Engine™ CAN, 100M Ethernet, RS232, CF, and 16-bit ADC

NEW!



Features:

- 3.6 x 2.3 x 1”, 150 mA at 5V
- 16-bit x186 CPU, program in C/C++
- Controller Area Network (CAN2.0B) port
- 256 KW 16-bit Flash, 256 KW 16-bit SRAM, 512 bytes EE
- 20+ TTL I/Os, Real-time clock, 2 serial ports, PWM, counters
- 4 ch 16-bit parallel high speed ADC (AD7655)
- Hardware TCP/IP stack for 100M Base-T Ethernet
- CompactFlash card with FAT file system support

The ***CAN-Engine™*** (***CANE***) is a high performance, low cost, C/C++ programmable embedded controller with CAN support. It is intended for networking, automotive, industrial process control, high-speed data acquisition, and especially ideal for OEM applications.

A Controller Area Network (CAN) controller (SJA1000, 20 MHz clock) can be installed along with on-board CAN transceiver. Supported baud rates range from 300 bps to 1 Mbps, and interrupt-driven buffering software allows reliable, efficient delivery and receipt of packets over the CAN network. CAN control egisters on the SJA1000 are accessible in software.

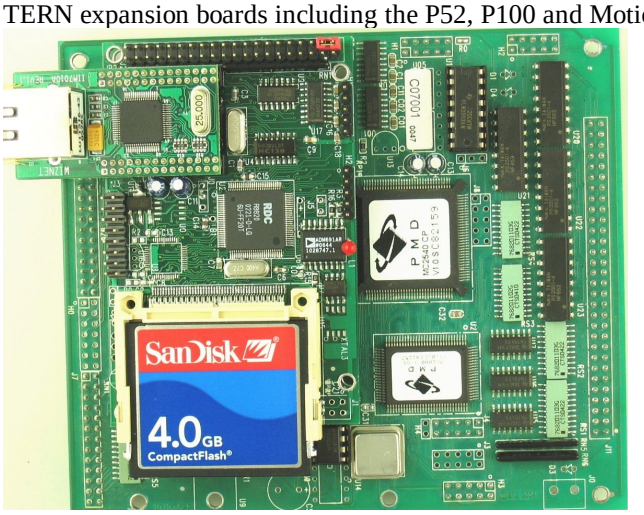
A Fast Ethernet Module can also be installed to provide 100M BaseT network connectivity. This Ethernet module has a hardware LSI TCP/IP stack. It implements TCP/IP, UDP, ICMP and ARP in hardware, supporting internet protocol DLC and MAC. The hardware Ethernet module releases internet connectivity and protocol processing from the host processor, which represents a huge improvement over software-based TCP/IP stacks. The resulting system can easily handle transmissions in the 100KB/s+ range in real world applications. It supports 4 independent stack connections simultaneously at a 4Mbps protocol processing speed. Software libraries and demo project are available for Ethernet connectivity.

A 16-bit parallel ADC (AD7655, 0-5V) supports ultra high-speed (1 MHz conversion rate) analog signal acquisition. The AD7655 contains two low noise, high bandwidth track-and-hold amplifiers that allow *simultaneous* sampling on two channels. Each track-and hold amplifier has a multiplexer in front to provide a total of 4 channels analog inputs. The 16-bit parallel ADC requires only two CPU I/O operations (one start, one read) to complete a 16-bit ADC reading. With on-board precision 2.5V reference, the ADC accepts 0-5V analog inputs at 16-bit resolution of 0-65,535.

The ***CANE*** supports up to 2 GB mass storage CompactFlash cards with Windows compatible FAT filesystem support, allowing user easily transfer large amounts of data to or from a PC.

The ***CANE*** features fast execution times through 16-bit ACTF Flash (256 KW) and battery-backed SRAM (256 KW). It also includes 3 timers, PWMs, 20+ PIOs, 512-byte serial EEPROM, two RS232 ports, 3 timer/counters, and a watchdog timer. The three 16-bit timers can be used to count or time external events, up to 10 MHz, or to generate non-repetitive or variable-duty-cycle waveforms as PWM outputs. The PIO pins are multifunctional and user programmable. A real time clock (DS1337, Dallas) is available.

The ***CANE*** can be powered by regulated 5V DC or unregulated 9-12V DC with installing a 5V regulator. The ***CANE*** works with TERN expansion boards including the P52, P100 and MotionC.



A CAN-Engine™ installed on the top of a MotionC board.

Ordering Information

CANE **$99/$84/$69/$39** **Qty 1/50/100/1K+**

Includes 40 MHz CPU, 64KW SRAM, PIOs, 2 RS232, 3 timers, watchdog timer, 512 bytes EE, 256KW flash

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

Add-on Options:

1) SRAM 256KW **$20**
2) Real-time clock (RTC) and battery..... **$20**
3) CompactFlash interface **$20**
4) **100 BaseT hardware TCP/IP Ethernet** **$30**
5) **CAN controller with transceiver** **$40**
6) 4 ch. 16-bit ADC, 1MHz (AD7655) **$40**

Typical Order Example:

CAN-Engine™, CAN port

CANE +5 = $99+$40 = $139

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A-Engine-P™ 40MHz!

A-Core™ Am188ES-based microcontroller