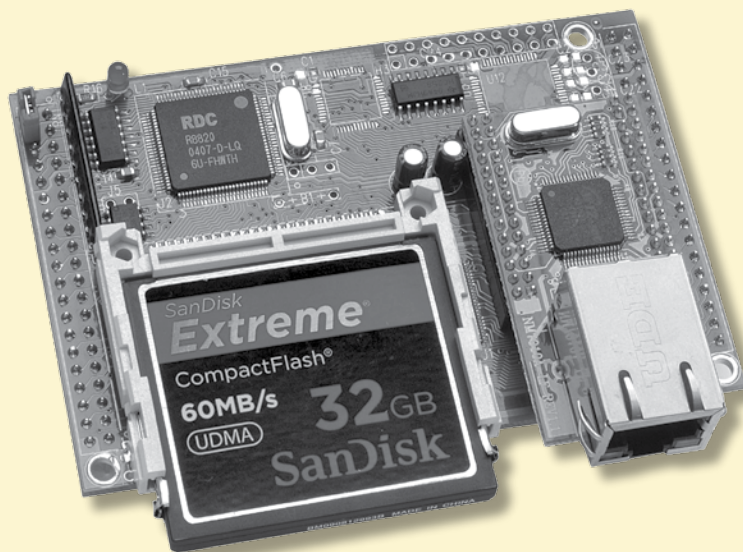


B-Engine™

**Bipolar ±10V ADC inputs with 7 kV ESD rating,
plus DAC, Ethernet, CF**



Features:

- 3.6 x 2.3 x 1", 200 mA at 5V
- 40 or 80 MHz, 16-bit CPU, program in C/C++
- 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
- 8 ch ±10V Bipolar Simultaneous Sampling ADC (AD7606/7)
- 4 ch, high speed 16-bit parallel DAC(DAC8544)
- Hardware TCP/IP stack for 100M Base-T Ethernet
- CompactFlash card with FAT file system support

Summary

The **B-Engine™ (BE)** is a high performance, low cost, C/C++ programmable controller with ±10V bipolar analog inputs. It is intended for networked industrial process control, power-line monitoring and protection, multiphase motor control, high-speed data acquisition. With its high reliability and low cost, it is ideal for industrial OEM applications.

A true bipolar, simultaneous sampling ADC (AD7606, 16-bit or AD7607, 14-bit) can be installed on the **BE**. The ADC can accept ±10V or ±5V true bipolar analog signals while sampling at throughput rates up to 200 kSPS for all 8 analog inputs. Each analog input contains second-order antialiasing filter, sample-and-hold amplifier and clamp protection tolerant up to ±16.5V. With 1M ohm analog input impedance, a 7000V ESD rating, and sustaining up to ±10 mA input current, the analog inputs are designed to survive in a rough industrial environment. The BE allows simultaneous sampling on all eight analog inputs. Via 16-bit parallel interface, DMA operation can transfer 8 16-bit data into RAM or CompactFlash cards with low software overhead.

A 4 channel, 16-bit DAC (DAC8544) can be installed. Its on-chip output amplifier allows rail-to-rail voltage output (0-5V). It connects to the host CPU via high speed 16-bit parallel interface.

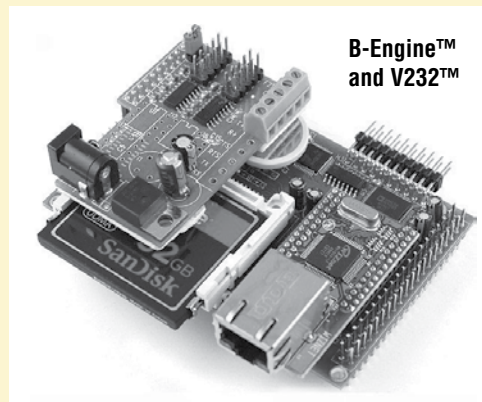
A Fast Ethernet Module can be installed to provide 100M Base-T network connectivity. This Ethernet module has a hardware LSI TCP/

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.

The **BE** supports up to 32 GB mass storage CompactFlash cards in raw data mode; it also supports a Windows compatible FAT16 file system (up to 2GB), allowing user easily transfer data.

The **BE** features 16-bit ACTF Flash (256 KW) and battery-backed SRAM (256KW). It also includes 3 timers, PWMs, 20+ PIOs, 512-byte serial EEPROM, two UARTs, 3 timer/counters, and a watchdog timer. PIO pins are multifunctional and user programmable. A real time clock (RTC27423, Epson) is available.

The **BE** is powered via regulated 5V. The **BE** works with most TERN expansion boards including the B48, V232, P52, P100, and P300. The V232 can provide RS232 drivers and regulated 5V



**B-Engine™
and V232™**

Ordering Information

BE **\$99/\$84/\$69** Qty 1/100/1K+

Includes CPU, 64KW SRAM, PIOs, 2 UARTs, 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) 8 ch. ADC (a)AD7606 (b)AD7607 | \$50/\$40 |
| 6) 4 ch. 16-bit DAC(DAC8544)..... | \$60 |
| 7) V232 (RS232 and 5V)..... | \$69 |
| 8) 80 MHz upgrade | call |

Typical Order Example:

B-Engine™, SRAM, RTC, ADC7607,
BE +1+2+5b = \$99+\$20+\$20+\$40 = \$179



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